Commonwealth of Massachusetts Department of Fish & Game *Mary B. Griffin, Commissioner*
DIVISION *of* ECOLOGICAL RESTORATION
Tim Purinton, Director
Ebb&Flow
An electronic newsletter from the Massachusetts Division of Ecological Restoration

Ebb&Flow #17

October, 2013

An electronic newsletter from the Mass. Department of Fish and Game's Division of Ecological Restoration (DER)
http://www.mass.gov/der

Greetings, restoration friends and colleagues:

We say it often, but can't say it enough – partnerships are what make projects happen. Here in Massachusetts we are fortunate to have such a strong and diverse cadre of organizations working together to protect and restore our environment, and to connect people to their rich natural heritage. The dedication and contributions of all our partners – often coordinated by our talented staff – greatly leverages DER's modest capacity to achieve restoration results.

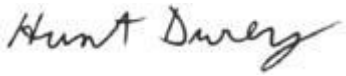
This edition of ***Ebb&Flow*** highlights two projects that again exemplify the power of partnerships. Our lead article is a reprint of a NRCS press release highlighting a major new $1.92 million contribution to the Tidmarsh Farms Restoration Project in Plymouth. This exciting project draws on the resources of more than twenty organizations to advance the landowners' vision toward implementation. The second article celebrates completion of the Mill River Restoration – Whittenton Dam removal in Taunton. Here, an impressive team of government agencies, non-profits, and landowners are working toward full restoration of Mill River connectivity by removing three dams and installing a fish ladder at a fourth. Only one project remains to be completed in 2014 to reach their goal.

Another way DER leverages restoration capacity is by providing small grants that serve as match to attract larger non-state contributions. We recently announced five new grants totaling $148,000 (click here to read the press release with more details). This state investment will pay major dividends by helping to secure over $650,000 in competitive federal funds this year to develop and complete these projects. When implemented, the restoration of these habitats will generate tens of millions of dollars in economic output from construction activity and an even greater value in recurring ecosystem service benefits.

The bottom line is that when strong partnerships invest in ecological restoration, both the environment and the economy come out ahead, and our communities benefit from an improved quality of life.

Thank you for your partnership, and enjoy the fall weather and beauty out on the water!

Sincerely,



Hunt Durey, Acting Director

Improving Stream Crossings: Flood Resilient, Fish Friendly – Fall Workshops Scheduled

Based on the popularity of the sessions held in western Mass. earlier this year, several ***Improving Stream Crossings: Flood Resilient, Fish Friendly*** **workshops** will be offered in eastern Mass. this fall: **Thursday, October 10** in Taunton; **Thursday, October 17** in Wakefield; and **Tuesday, October 29** in Marlborough. Organized by DER, the Mass. Rivers Alliance and other partners, and intended for municipal public works staff, municipal staff and volunteers, and engineering consultants, these workshops focus on making stream crossings safer and more resilient in the face of future storms. Expert presenters will provide best practices and case studies on replacing road/stream crossings – covering site assessment, engineering standards, permitting, funding and installation. Click here to register, here to download a flyer, or here to read or here to see a video about the workshops on the BayState Roads Program website.

In the meantime: you might want to take a look at recently-updated (June 2012) versions of the ***Massachusetts Stream Crossing Handbook***, designed to inform and educate local decision makers and conservationists about the importance of properly designed stream crossings, and include several case studies and technical resources. Hard copies of the *Handbook* and a related Poster are available; contact Carrie Banks at carrie.banks@state.ma.us or (413) 579-3015 for more info. Additional related info includes ***Design of Bridges and Culverts for Wildlife Passage at Freshwater Streams***, put out in December, 2010 by MassDOT Environmental Services, and this blog posting from Princeton Hydro.

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Feature Articles

Wetland restoration to begin soon at Tidmarsh Farms, Plymouth - Project will benefit the environment and local economy

[press release reprinted courtesy of the Mass. Office of the Natural Resources Conservation Service]

PLYMOUTH, Mass. (September 27, 2013) – One of the largest ecological restoration projects ever undertaken in Massachusetts will soon begin at Tidmarsh Farms in Plymouth, funded in part by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS). Encompassing 250 acres of degraded freshwater wetlands, including 192 acres of former commercial cranberry bogs, the project will protect and restore a substantial area of critical habitat in this coastal watershed.

Private landowners; federal, state and local agencies; and non-governmental organizations are partnering on the project which will generate significant benefits for both the environment and the local economy.

In 2010, a permanent conservation easement was placed on 192 acres of cranberry bogs and wetlands through the NRCS Wetlands Reserve Program (WRP). WRP is a voluntary program that provides technical and financial assistance to private landowners to restore, protect and enhance wetlands in exchange for retiring eligible land from agriculture.

Comprehensive wetland and stream restoration work is planned at Tidmarsh Farms in an effort to holistically restore ecological processes to the retired cranberry bog system, which includes the headwaters of Beaver Dam Brook. Agricultural berms and water control structures that are barriers to fish migration will be removed, degraded stream channels will be reconstructed using large wood to enhance habitat, and native species including Atlantic white cedars will be replanted.

The entire project – from initial design through construction and monitoring – is estimated to cost $3 million. NRCS will provide $1.92 million for construction or 64 percent of the total cost. Construction is scheduled to begin in late summer of 2014.

Other project partners are the Mass. Department of Fish and Game's Division of Ecological Restoration, which is leading project management; the landowners; the National Oceanic and Atmospheric Administration (NOAA); the U.S. Fish and Wildlife Service (USFWS); Mass Audubon; the Town of Plymouth; and many others.

"The Commonwealth of Massachusetts greatly appreciates the partnership and investment of NRCS in this important conservation and restoration effort," said Massachusetts Energy and Environmental Affairs Secretary Rick Sullivan. "When you combine the landowners' extraordinary vision with this impressive team led by our Division of Ecological Restoration, you get a project that will deliver exceptional return on investment—year after year—for people and the environment."

A 2013 study commissioned by The Trust for Public Land found that every dollar invested in land conservation returned four dollars in water quality protection, flood mitigation, and recreation opportunities to the Massachusetts economy. A 2012 DER study found that every $1 million invested in bog restoration design and construction generated 13.2 jobs and $1.82 million in economic output. The ecological restoration work at Tidmarsh Farms is expected to generate an estimated 40 jobs and $5.4 million in economic output.

"Conserving important open space and restoring ecosystems are at the heart of all WRP projects," said Christine Clarke, NRCS Massachusetts State Conservationist. "Protecting and restoring such a large site – a significant portion of an entire coastal watershed – not only improves the environment, but also provides lasting social and economic benefits to the Plymouth community and the state."

The Tidmarsh Farm project also includes a unique academic and technology partnership that will further expand the benefits.

"The restoration actions will kick start conservation across the landscape and provide a unique learning opportunity as a Living Observatory," said Glorianna Davenport, Trustee of Tidmarsh Farms. "We are excited to work with collaborators from the MIT Media Lab, the Department of Geosciences at UMass Amherst, Public Laboratory and others to document changes brought about by the restoration in real time, and to make these changes visible to visitors both on site and over the internet."

A "Living Observatory" approach leverages the value of this restoration to education, technological innovation and knowledge creation. Goals include innovation in low-power sensor systems to measure complex change across a restoration site, as well as technologies that allow the public to experience ecological interdependencies that span large and small time frames. The results will allow partners to thoroughly understand and adaptively manage changes at the site, and will advance the science of ecological restoration to inform the planning and design of future projects.

From Mill River to Herring River: Restoring Habitat in Taunton

Looking downstream across the Whittenton Dam, July 2013. *Same view after dam removal, August 2013*

On July 19th, 2013, an excavator began chipping away at concrete that had held back the Mill River for centuries. Within days, the 26-acre impoundment behind the Whittenton Dam dropped, the floodplain was revealed, and the river began to transform.

The removal of Whittenton Dam continues a much larger DER-led effort to restore the Mill River corridor by removing three dams and constructing a fish ladder at a fourth dam. When the **Mill River Restoration Project** is complete, river herring, American eel, and other diadromous fish will be able to access Lake Sabbatia, Watson Pond, Winnecunnet Pond, and 30 miles of river and stream habitat in the upper Mill River watershed. The Mass. Division of Marine Fisheries (DMF) has estimated that the Mill River may be able to support an annual run of more than 50,000 river herring. In addition, more than 30 acres of historic floodplain will soon begin to absorb floodwaters and provide wildlife habitat. Other benefits include improved water quality, habitat connectivity for state-listed mussels, and elimination of public safety threats caused by aging dams.

After nearly five years of planning, construction work began last summer with the removal of Hopewell Dam. The Whittenton Dam removal project was completed in September of this year. DMF led the effort to establish fish passage at Morey's Bridge Dam, and the Mass. Department of Transportation (MassDOT) constructed a fish ladder at that dam in 2013. In 2014, DER and the Mill River Restoration Partners will remove West Britannia Dam.

The Mill River Restoration Project provides a unique opportunity to track the reestablishment of river herring, American eel, and other diadromous species. DMF, with funding from The Nature Conservancy and the National Oceanic Atmospheric Administration (NOAA), installed an underwater camera upstream from the Hopewell Dam Removal site to capture the first herring migration season after removal of the dam. Within hours of turning on the camera, it recorded river herring moving past the old dam site. Besides the warm water fish already present in the Mill River, the camera has documented sea lamprey, American eel, and eastern brook trout. DMF plans a long-term study to monitor the reestablishment of diadromous fish and to track their dispersal into the tributaries and ponds of the upper watershed. The study will be funded by DMF, DER, The Nature Conservancy, and NOAA.

The Mill River Restoration Partnership includes dam owners, DER, DMF, Southeastern Regional Planning and Economic Development District (SRPEDD), NOAA, TNC, the Natural Resources Conservation Service (NRCS), Save the Bay, American Rivers, US Fish and Wildlife Service, MassDOT, Mass Audubon, Taunton River Watershed Alliance, and the Mass. Environmental Trust (MET). The design engineer for the project is Inter-Fluve. [Click here to read a recent news article on the project and here to read blog postings providing "as it happens" reporting on the Mill River Restoration Project.]

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Division of Ecological Restoration News and Project Updates

River Instream Flow Stewards (RIFLS) Update

Streamflow Restoration Project, Jones River. Kingston

By Laila Parker, DER Watershed Ecologist

View of the RIFLS gage at the headwaters of the Jones River, just downstream of Silver Lake, under extremely low flow conditions in November, 2007.

Restoration of more natural streamflows in the Jones River watershed became a **DER Priority Project** in 2012. The Jones River historically supported a healthy aquatic environment, including prolific runs of river herring, key forage fish which have supported valuable commercial, recreational, and subsistence fisheries. Herring once spawned in Silver Lake, at the river's headwaters, which today is the City of Brockton's main water supply reservoir. Flow into the Jones varies dramatically depending on Brockton's intake for water supply and their management of Furnace Pond in Pembroke and Monponsett Pond in Hanson and Halifax. This water supply management, along with the effects of cranberry bogs, dams, and other human activities, alters natural streamflow patterns, negatively impacting habitat for herring and other species in the Jones.

DER has supported River Instream Flow Stewards (RIFLS) in monitoring streamflow at several sites in the Jones River watershed over the last decade. RIFLS volunteers reading the gage just downstream of Silver Lake have documented frequent extremely low flows in the Jones since 2003. In 2011, DER helped the Jones River Watershed Association (JRWA) and partners to remove the Wapping Road Dam, significantly improving the opportunities for fish passage in the Jones. Activity towards flow restoration has ramped up in 2013, beginning with a study of the feasibility of providing fish passage to Silver Lake, in balance with Brockton's use of the lake as water supply. DER supported this project in partnership with the JRWA, the Mass. Division of Marine Fisheries (DMF), the National Oceanic and Atmospheric Administration (NOAA), the City of Brockton, and the Gulf of Maine Council on the Marine Environment. Click here to access the final report and related info.

Supporting the above report, DMF recently released a report assessing habitat in Silver Lake, which concludes "much of Silver Lake had water quality conditions that would support river herring spawning and nursery habitat requirements. The most significant impairment for the goal of restoring river herring to Silver Lake was fish passage obstruction at Forge Pond Dam and reduced stream flow that could prevent juvenile herring emigration during summer and early fall." In June, the Town of Halifax completed a project (funded by a grant from the state's Sustainable Water Management Initiative, SWMI) to examine water management changes to Monponsett Pond and the larger Silver Lake system that could improve streamflow and water quality both in the Jones and in Stump Brook, which flows from Monponsett Pond. This report is available on Halifax's website at http://www.halifax.ma.us/pages/HalifaxMA_Webdocs/swmi.pdf

The three studies listed above provide ecological grounds for changing management of the Silver Lake system. To understand the economics of such changes, the Jones River Watershed Association is working with the firm Industrial Economics, Inc. to analyze the costs and benefits to Brockton and surrounding communities of using less water from Silver Lake, and instead utilizing other sources for drinking water supply such as the Aquaria desalination plant on the Taunton River.

To provide more information on streamflows in the Jones today and into the future, DER will be upgrading our current RIFLS gage on the Jones River just after it leaves the Silver Lake system. The new system will collect continuous data and stream it to the web; stay tuned for more details on how you can access Jones River flow data in real time.

DER Inland and Coastal Projects Update

Removal of the "Off Billington Street Dam" from Town Brook, Plymouth

By Nick Wildman, DER Priority Projects Coordinator

In October, work will begin to remove the Off Billington Street Dam (see above photo) from Town Brook in Plymouth. Removal of this dam is part of an eleven-step plan the Town of Plymouth has been implementing to remove barriers from Town Brook and increase public accessibility to this unique resource. Town Brook flows from the Billington Sea over a 1.5-mile course to Plymouth Harbor. The Brook was the Pilgrims' main source of fresh water at their settlement. However, decades of industrialization and neglect severely reduced the Brook's ecological functions. Despite that, Town Brook has maintained a robust herring run, with the help of the Division of Marine Fisheries, the Town, and others.

Town Brook was the site of one of Massachusetts' first proactive dam removals for restoration purposes, when in 2001 the Town and partners removed the Billington Street Dam, just downstream of this autumn's work. Removing the Off Billington Street dam involves extensive channel reconstruction, relocating underground utilities, and replacing the dam with a bridge to ensure continued access for the street's residents. All work should be completed by the spring of 2014. The Off Billington Street Dam removal will hopefully be followed by removal of the Plymco Dam (which is located just upstream) in the autumn of 2014. The Town Brook Restoration is supported by DER, the NOAA Restoration Center, the US Fish and Wildlife Service, and many other partners. Click here for more background info on past phases of the project, and here to read a news article and here to view a video on the current phase.

*The following **DER Priority Project** updates were provided by DER's Restoration Specialist Alex Hackman. Alex encourages you to contact him [(617) 626-1548 or alex.hackman@state.ma.us] for additional info or to discuss or comment on any of these projects.*

Bartlett Pond Dam Removal, Lancaster

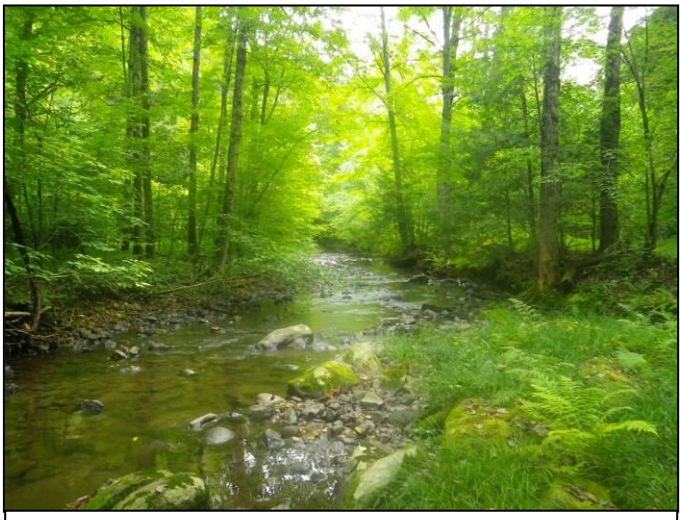
View from the Bartlett Dam spillway looking upstream into the drained impoundment.

View of Wekepeke Brook upstream of the dam and impoundment.

The Town of Lancaster has completed design and permitting for the removal of this aging structure on Wekepeke Brook, near its confluence with the North Nashua River. DER has provided technical and financial support to this project over the past several years. PARE Corporation is providing engineering services to the Town. Removal of the dam will open up 18 miles of upstream habitat, including area mapped as BioMap Core habitat. The stream supports a native brook trout population, and MassWildlife is one of several partnering organizations. The project is employing an "in-stream sediment management" technique, which will allow the upstream channel to shape itself over time in a natural manner. Improvements to the adjacent Frommer Conservation Area will also be performed over several years. A final push of fundraising is underway, and the Town hopes to begin dam removal this fall. Thanks to the Wekepeke Watershed Restoration Initiative, the Nashua River Watershed Association, and the Central Mass. chapter of Trout Unlimited for project support. [Click here for recent info on another restoration project further upstream on the Wekepeke.]

Kinne Brook Dam Removal, Chester

Field work by the project design team.



View of Kinne Brook downstream from the dam.

Designs are complete and permitting is underway for this small dam removal in beautiful Kinne Brook, in the Westfield River Watershed. DER is partnering in this effort with numerous organizations, including Trout Unlimited, the USDA's Natural Resource Conservation Service (NRCS), the U.S. Fish and Wildlife Service, and American Rivers. All of us are working to make the removal happen later this fall, but if not by then, then early next summer. Like the Wekepeke Brook project, this dam removal does not include any channel construction. Instead, the stream will carry the small amount of sand and gravel that has accumulated behind the dam downstream over time, while forming a new channel. Mother Nature and Father Time…the best recipe for success! Future restoration efforts in Kinne Brook will address two upstream culverts and a newly discovered (and very old looking) timber crib dam. [Click here to see a video and here for an opportunity to contribute funding to this project.]

Turner Dam Removal, Nissitissit River, Pepperell

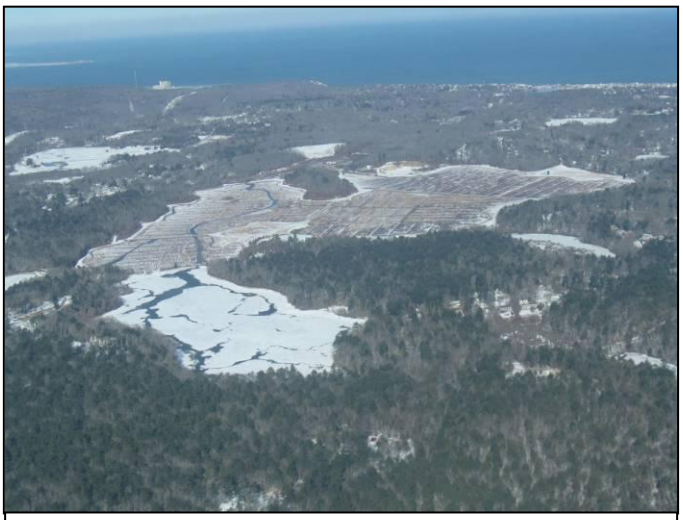
View of the dam spillway looking upstream.

View of the beautiful Nissitissit River upstream of the dam.

DER is partnering with MassWildlife, the Nashua River Watershed Association, Trout Unlimited, and others to remove the only dam on the Massachusetts segment of the scenic Nissitissit River. The Department of Fish and Game has acquired the land around the dam for conservation purposes. Engineering design commenced in the summer of 2013 (Gomez and Sullivan Engineers), and more work is planned for this fall. DER is providing lead project management services as well as financial support. The dam is located within the Petapawag Area of Critical

Environmental Concern (ACEC), home to rare mussels, and also a robust trout population. Removal of the dam will provide upstream fish passage and access to over 20 miles of high-quality, coldwater habitat. Permitting is expected to begin this coming winter, with removal targeted for next summer.

Tidmarsh Farms Restoration Project, Plymouth



View of Tidmarsh Farms from above: future home of restored wetlands and streams.

View up the valley at Tidmarsh Farms.

DER is leading a broad coalition of partners (twenty-two organizations, governmental agencies and others) to restore this large retired cranberry farm in the Manomet Village section of Plymouth. After several years of data collection and design, permitting is expected to commence soon. The design has been greatly assisted by data collected in partnerships with local universities, including UMass/Amherst and Boston, M.I.T., and others. The design is utilizing a wide variety of techniques, including ground-penetrating radar, distributed temperature sensing ('DTS' – a 3 KM long fiber optic cable installed to measure water temperature), thermal imaging, remote sensing and historical maps, along with local knowledge. The project includes the removal of two dams, multiple culverts and water control structures, reconstruction of miles of stream channel, exposure of buried peat kettle hole bogs, use of thousands of pieces of large wood, efforts to revive an old herring run, and replanting (as needed over time) with native species, including Atlantic white cedar trees. The restoration team includes USDA NRCS, NOAA, USFWS, Mass Audubon, American Rivers, the Town of Plymouth, Inter-Fluve, Inc., the Horsley Witten Group, and many others. The private landowners are spearheading much of the work, including invasive species control, seed collection and germination, public outreach, volunteer efforts, and Living Observatory: an effort to bring science, sensing, and education together in a 20-year study of the site. Stay tuned for much more on this exciting DER flagship project in the next year, and check out the project website (www.tidmarshfarms.com) or blog in the meantime. Project implementation is planned for late summer 2014.

Amethyst Brook Restoration, Pelham

Bartlett Rod Shop Company Dam before removal

Bartlett Rod Shop Company Dam during removal

The 20+foot high Bartlett Rod Shop Company Dam was successfully removed in late 2012 by DER and a broad coalition of partners including NOAA, USFWS, the Towns of Pelham and Amherst, the Massachusetts Environmental Trust (MET), Clean Water Action, MassDEP, American Rivers, and others. The project focused on restoring the natural downstream movement of sediment in this steep, gravel and cobble bottomed stream, as downstream habitat was severely degraded by a lack of sediment supply over many decades. Two significant events have occurred since then:

Bartlett Rod Shop Company Dam after removal (slope is in the process of being stabilized)

View of the "new" dam revealed after removal of Bartlett Rod Shop Dam and subsequent movement of bedload downstream

First – Sea lamprey have returned to this stretch of Amethyst Brook for the first time in decades! Only 6 months after dam removal, the downstream channel is changed from boulders to gravel bottom. Sea lamprey this spring pushing up from the Fort River must have liked what they found, and our design team from Stantec Consulting Services were lucky enough to spot them spawning just below and above the former dam (see photo at right). It is things like this that make our dam removal efforts truly worthwhile, and we hope you will share a smile with us over this rapid healing process of the brook.

Second – The removal of the dam set in motion a series of physical changes to the brook. As expected, lots of gravel and sand moved downstream. During a large storm event in June, the river down-cut several feet and exposed…a 'new' dam! This old wooden 'beaver-type' crib dam is held together with wooden pegs. We suspect is has been buried for centuries, and likely extends over a hundred feet laterally. Using a seismic survey method, Stantec estimates the size to be almost 11 feet tall (although now only several feet are visible). DER is coordinating with partners to assess and plan for the removal of this new structure, made all the more urgent and interesting by the return of Sea lamprey and other native species (i.e. Slimy sculpin) upstream of the former dam. Thanks for the U.S. Forest Service and Dartmouth College for monitoring assistance. Stay tuned for more updates in coming months…

Thinking (and Getting) Outside the Box: Revitalizing the Hoosic River in North Adams
By Cindy Delpapa

Entering North Adams westbound from Route 2 (the Mohawk Trail), a spectacular view is revealed of the Hoosic Hills, the Taconic Range and Mt. Greylock (at 3,491 feet, the Commonwealth's highest peak). From West Summit, a cluster of steeples draws one's eye to the compact downtown of North Adams, nestled in the narrow valley floor of the Hoosic River.

It is a steep drive down from the summit, with one notorious Hairpin Turn. Old mills usher you into the city, laying bare the story of North Adams' past. The look mirrors most of our older industrial hubs, with mills splaying outward from, and often concealing, the nucleus of all our working cities: the rivers harnessed to power the machines and the prosperity of the Industrial Revolution in New England.

For North Adams, it is more than aging mills hiding their river. Even from the lofty perch of West Summit, an uninitiated observer would fail to identify the Hoosic River running through the city. Once the backbone of this community, the Hoosic is now overlooked and underappreciated.

The Hoosic River (sometimes spelled "Hoosac" or "Hoosick"), and its major tributary the North Branch Hoosic River, course through North Adams (click here for an aerial photo). The South Branch (flowing north from Adams in a relatively gentle gradient) merges with the swifter North Branch next to the old mill buildings now housing MassMoCA, and then the Hoosic River mainstem follows the gently-sloped valley floor westward, to eventually empty into the Hudson River. The North Branch flows out of the Green Mountains of Vermont in a steep descent into North Adams, and once served as the major powerhouse for the city's mills.

The river's power attracted lucrative manufacturing to the city but it also brought calamity. Two massive floods in the 1930's ravaged parts of the city and its precious industrial base. In response, the city's leaders petitioned the U.S. Army Corps of Engineers to design and build flood protection in North Adams. The Corps' solution was a flood chute design used, at differing scales, across the U.S., including a large section of the Los Angeles River. For North Adams, the aesthetic and ecological price paid for flood protection is 15-foot high flood walls and a floor of unrelenting, steeply pitched concrete encasing the Hoosic and North Branch Hoosic Rivers for 2.3 miles. The look is more drainage ditch than river. It is hard to conceive of these flood chutes as a brief concrete interval in what is otherwise a thriving cold water fishery with native brook trout, great fishing and recreation, surrounded by spectacular landscape.

The chutes have, so far, performed as their flood control purpose intended. During the near-record-breaking flow generated by Tropical Storm Irene in 2010, North Adams was spared the devastating flood damage experienced by many communities in the region. But the chutes come with costs. The smooth concrete walls and floor are inhospitable habitat for aquatic species, and the exposed chutes raise water temperatures in the summer confounding the native fishery and degrading water quality. The chutes are unattractive physical barriers slicing up the city, while preventing access to and enjoyment of the Hoosic and North Branch Rivers.

Hoosic River flood chute in North Adams.

The invisibility and unattractiveness of the Hoosic River in North Adams does not go unnoticed. Judy Grinnell, a North Adams resident, was intrigued by the urban river reclamation she saw in other cities such as San Antonio, TX and Providence, RI, and wondered if North Adams could improve their river, and by extension the city, through similar efforts. This interest was soon transformed into a core group of volunteers researching urban river revitalization and seeking advice from experts in the field. The informal group broadened into a coalition, followed by nonprofit status as the **Hoosic River Revival**. The goal statement of the River Revival "is to improve the Hoosic River so North Adams has an aesthetically-pleasing, clean, accessible, and flood-controlled river that enhances the city's recreational, cultural, historical, and economic vitality", and the group, fueled in large part by Judy's vision and strong leadership, is making remarkable progress forward.

Built over a half century ago, the North Adams flood chutes are outmoded, and the concrete structure is aging. A major crossroads is looming for the city as signs of deterioration, including the collapse of wall sections, are growing. The original agreements with the Corps do not include provisions for fixing or replacing these local protection projects as they reach the end of their design life. Hoosic River Revival champions a proactive approach to the inevitable decision of what to do about the city's aging flood management structures. Theirs is a sensible argument: advocating for planning the next chapter in flood protection for the city rather than delaying until a crisis or significant failure of the chute's infrastructure forces an immediate response. For the River Revival, this pre-planning approach offers the city an opportunity to explore more current engineering options for flood control, and identify those able to provide a level of river revitalization and restoration while still maintaining an equivalent level of flood management.

The Revival has amassed a long list of accomplishments in just four years. It was designated a **DER Priority Project** in 2010 and followed with a structural analysis of the flood chutes and a gathering of residents to have a community conversation about the Hoosic River. The conversation brought residents together to begin to learn about current restoration and flood management concepts and discuss the future of their river.

The input from this day-long event charted the Revival's next steps. In addition to many outreach projects, from work with students on riverside garden beds, video tours and water monitoring to diverse community outreach, the River Revival has been steadily moving forward with planning. Earlier this year, an assessment report of viable restoration and revitalization options for different sections of the engineered channel was completed. This effort provided the community with their first taste of what modifications to the flood chutes might look like if implemented. The report delivered a selection of concept sketches and design details, along with a matrix ranking the challenges and benefits for each option.

Equipped with over a dozen options, the River Revival returned to the community for more feedback at their second community conversation this past June. Residents were able to get their first glimpse of what might be possible in North Adams. Breakout groups gave a more intimate forum for people to offer opinions, ask questions and contribute suggestions. The options ranged from modest greening projects, where space constraints prevented any real change to the chute configuration, to more creative alternatives where the river, during most flow levels, would be diverted out of the chutes. The three diversion options have the river flowing through a naturalized and accessible river corridor, leaving the flood chutes to handle only flood flows. Some alternatives offered the possibility of direct modification to the chutes: creating low flow channels in the chute floor to improve habitat, or

South Branch Hoosic River (Foundry Rd to Noel Field) Option B. Diversion of river into flood plain forest. Design by Milone and MacBroom, Inc.

expanding the chute walls outward in a series of terraced steps to provide access to the water- but still maintain existing flood protection levels. The Community Conversation II was a successful and productive gathering, with people feeling more enthused and optimistic about the future of the city and the possibilities for the Hoosic River.

So what is next for the Hoosic River Revival? Selecting a pilot restoration project is at the top of the list. Once the pilot is selected, the River Revival will be on its way to changing the fabric of their city for the better.

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Resources and Grants

Grant, Prize, Fellowship, Contest, Award, Fundraising, etc. Opportunities

(presented in rough chronological order by application/nomination/entry deadline)

The **U.S. EPA's Campus RainWorks Challenge**, intended to encourage innovative approaches to stormwater management, seeks to engage the next generation of urban planners, designers, and engineers in the development of innovative green infrastructure systems to meet our nation's growing water infrastructure needs. Student teams, working with a faculty advisor, will submit design briefs and a video describing a proposed green infrastructure project for their campus. This year, EPA is pleased to invite teams to compete in two categories: a Master Plan category and a Site Design category. Although entries for the Challenge aren't due until **December 13, 2013**, teams **must register by October 7**. Winning teams will earn a cash prize of $1,000 - $2,000. Click here for general info

and here to download detailed info on the Challenge.

A program of automaker Lexus and children's publishing company Scholastic, the **Lexus Eco Challenge** is an educational program and contest designed to inspire and empower U.S. middle and high school students to learn about the environment and take action to improve it. In its seventh year, the program will award a total of $500,000 in grants and scholarships. The competition is open to students in grades 6-12; teams of students can enter if they are part of an afterschool science or environmental club. Middle and high school teams of five to ten students and a teacher-advisor are invited to participate in one or both of the two initial challenges, each addressing different environmental elements: land/water and air/climate. For each of the challenges, teams define an environmental issue that is important to them, develop an action plan to address the issue, implement the plan, and report the results. The submission **deadline** for Challenge 1 (**land/water**) is **October 7, 2013**; the **deadline** for Challenge 2 (**air/climate**) is **November 11, 2013**; click here to enter or for more info.

Established in 1992, the Boston-based **Green Corps**, a "field school for environmental organizing", runs a full-year, paid training program for college graduates, who receive instruction in a classroom setting from leaders in the environmental movement and then go on to work on real and urgent environmental campaigns across the country. Green Corps is currently seeking applicants for the 2014-2015 class of "ambitious, passionate, go-getters who want to make an immediate impact protecting the planet". The application **deadlines** are **October 11** and **November 1, 2013**. Click here to download the 2014-2015 Green Corps Application and Program Guide.

The Mass. Department of Conservation and Recreation (DCR) recently announced the availability of funding for the **2014 Massachusetts Recreational Trails Program** (RTP), which makes grants to support a variety of trail protection, construction, and stewardship projects throughout the Commonwealth. DCR is assisted by the **Massachusetts Recreational Trails Advisory Board** (MARTAB) in the administration of the RTP. Funds are disbursed to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. While the RTP generally provides grants in the $2,000-$50,000 range, grant proposals seeking as much as $100,000 may be awarded based on need, breadth and reach of the trail project. RTP grants are **reimbursement** grants, meaning grantees must apply for reimbursement after expenditures have been made and by providing the required documentation. The application **deadline** for 2014 RTP grants is **February 1, 2014.** In the meantime, DCR is hosting several informational workshops on the RTP for prospective applicants (all beginning at 6:30 PM): **Wednesday, October 9** in Pittsfield; **Wednesday, October 16** in Turners Falls; and **Wednesday, October 23** in Stoneham. Click here or contact RTP Coordinator Amanda Lewis at (413) 586-8706 ext. 19 or amanda.lewis@state.ma.us to sign up for any of these sessions or for other questions on the RTP.

The **Massachusetts Environmental Trust** (MET)'s **General Grants Program** supports nonprofit organizations and municipalities in efforts to restore, protect, and improve water and water-related resources of the Commonwealth. The program accepts proposals for programs and initiatives that address threats to the health of the state's water bodies. The FY2015 General Grants Request for Responses (RFR) is now open. To access the RFR directly, go to http://www.comm-pass.com, click on "Search for a Solicitation", then enter EEA 14 MET 01 in the Keywords box. Letters of inquiry for this round are due on **October 11, 2013** for projects that will begin in July 2014. Contact MET Administrator Bill Hinckley at (617) 626-1177 or william.hinkley@state.ma.us for more info, including a request to have a copy of the RFR e-mailed directly to you.

In **September**, NOAA's **Federal Coastal and Estuarine Land Conservation Program** (CELCP, pronounced 'kelp") is expected to release a notice of availability for funding for Federal Fiscal Year (FFY) 2014. **Shortly following** this notice, the Mass. Office of Coastal Zone Management (CZM) will post the state's Request for Responses (RFR) soliciting potential projects for this funding opportunity. CZM will review applications and select which project(s) the state will include in its nomination package to NOAA for consideration in the national CELCP ranking. NOAA will then release the national ranking of priority projects and fund selected projects. The CELCP funding level for federal FY2014 is projected to be approximately $3 million available nationwide. Individual projects will likely be able to request up to $1 million in CELCP funding, and will require at least a 50% non-federal match. The anticipated timeline for this funding opportunity is subject to change, but is projected to be as follows:

RFR project applications **due** to CZM by **October 16**, state nominations due to NOAA by October 30, and NOAA's release of national ranking of priority projects in late winter 2014. NOAA anticipates that projects funded under this year's CELCP will have a grant start date between June 1, 2014 and October 1, 2014. For more information on project eligibility, application guidelines, and a schedule as it becomes available, visit Applying for a CELCP Grant web page. To access the RFR, visit the Comm-PASS website, and enter FY 14 CELCP into the "Keywords" box. Click here or contact CELCP Mass. state contact David Janik [(508) 291-3625 ext. 12, david.janik@state.ma.us] for more info.

The Massachusetts Emergency Management Agency (MEMA) and the Department of Conservation and Recreation (DCR) invite communities, state agencies, and tribal governments and territories to submit applications for the **Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program**. These competitive grants assist applicants with hazard mitigation planning and the implementation of hazard mitigation projects to reduce or eliminate the loss of life and property due to natural hazards. **Eligible activities include stormwater, drainage, and culvert improvements**; **property acquisition**; **slope stabilization**; **infrastructure protection**; **seismic and wind retrofits**; **structure elevations**; **and hazard mitigation planning**. The **application deadline** has been extended to **October 18**; click here, here or see FEMA's Fiscal Year 2013 Hazard Mitigation Assistance (HMA) Unified Guidance for more info.

The vision of the U.S. Water Alliance (formally known as Clean Water America Alliance) is a world where water is viewed, managed and valued as one resource. A world where the silo thinking that has kept clean water, drinking water, stormwater and water reuse interests segregated erodes away – and a movement toward meeting future challenges on a watershed basis, with a focus on sustainability and green cities emerges in its place. The **United States Water Prize** honors individuals, institutions, and organizations that have made an outstanding achievement in the advancement of sustainable solutions to our nation's water challenges. Any U.S.-based institution, organization, or individual is eligible to win a U.S. Water Prize. The nomination **deadline** for the 2014 Prize is **October 31, 2013**; click here for more info.

One of the four stated purposes of the Michigan-based **Carls Foundation** is the "preservation of natural areas, open space and historic buildings and areas having special natural beauty or significance in maintaining America's heritage and historic ideals, through assistance to land trusts and land conservancies and directly related environmental educational programs." Most grants made by The Carls Foundation are in the $5,000 to $50,000 range and go to organizations with 501(c)(3) status, whose programs are effective and innovative, and fall within the Foundation's stated purpose and mission. The Carls Foundation has no formal application for grant requests; a letter of inquiry is not required and **phone calls are welcome**. A request for funds should minimally include the following: a cover letter signed by the chief executive officer briefly stating the reason and the amount requested; project description and budget; organization history; pertinent financial data for the organization; amount requested; and evidence of 501(c)(3) tax status (i.e., copy of the IRS exemption letter). The Trustees meet to consider grants three times/year; requests submitted by **November 1** will be taken up at the January board meeting. Click here or contact Elizabeth A. Stieg, Executive Director, The Carls Foundation, 333 West Fort Street, Suite 1940, Detroit, MI 48226, (313) 965-0990 or (313) 965-0547 (fax) for more info.

What would it be like if your organization suddenly had the resources of 8-10 enthusiastic, hard-working, and professional young adults serving full-time for up to eight weeks? The mission of **AmeriCorps' National Civilian Community Corps** (NCCC), a full-time, team-based service program for men and women aged 18–24, is to strengthen communities and develop leaders through direct, team-based national and community service. In partnership with nonprofit organizations, state and local agencies, schools, state and national parks, Indian Tribes, and faith-based and other community organizations, members complete a variety of service projects. These young adults help communities prepare and respond to disasters, improve infrastructure such as low-income housing and **public parks, restore streams or wildlife habitats to help protect the environment**, conserve energy through weatherization projects or recycling programs, and contribute to urban and rural development by supporting services to seniors, youth, or homeless individuals. The application **deadline** for filling out and submitting the short Concept Form in response to the NCC's 2014 RFP is **January 3, 2014**. Click here, here or

contact NCCC regional coordinator Thea Becton [(410) 642-2411 ext. 6869, tebecton@cns.gov] to see the RFP, obtain a blank Concept Form, or more info.

The Harvard University Center for the Environment's **Environmental Fellows Program** enables recent doctorate recipients to use and expand Harvard's resources to tackle complex environmental problems. The Environmental Fellows will work for two years with Harvard faculty members in any school or department to create new knowledge while also strengthening connections across the University's academic disciplines. The Fellowship provides an annual stipend of $60,000 plus health insurance, a $2,500 annual allowance for travel and professional expenses, and other employee benefits. The application **deadline** for 2014 Fellows **is January 15, 2014**; click here to apply and here for more info.

The **U.S. Forest Service (USFS)'s Community Forest Program** (CFP) protects forests that are important for people and the places they call home. Community forests provide many benefits such as places to recreate and enjoy nature; they protect habitat, water quality and other environmental benefits, and they can provide economic benefits through timber resources. Community Forests have also long been sites for environmental and cultural education. The USFS on August 27 issued a **Request for Applications** for the next round of funding under the **Community Forest and Open Space Program**, a competitive grant program whereby local governments, qualified nonprofit organizations, and Indian tribes are eligible to apply for grants to establish community forests through fee simple (not CR) acquisition of private forest land from a willing seller. The purpose of the Program is to establish community forests by protecting forest land from conversion to non-forest uses and provide community benefits such as sustainable forest management, environmental benefits including clean air, water, and wildlife habitat; benefits from forest-based educational programs; benefits from serving as models of effective forest stewardship; and recreational benefits secured with public access. While the total amount of funding for the next grant round is expected to be $4 million, individual grant applications may not exceed $400,000. Applications are **due** to the State Forester [for Massachusetts, that is Peter Church, DCR, 251 Causeway Street, Boston, MA 02114, (617) 626-1461, (617) 626-1449, peter.church@state.ma.us] by **January 15, 2014**. Click on these links for more info: *FAQ page; Sample Community Forest Program Application template*; *FY12 Community Forest Program Funded Projects list*; *FY12 Community Forest Programs Funded Projects Press Release*; or contact Mike Fleming at DCR [(508) 792-7715 ext. 114 or mike.fleming@state.ma.us] for more info.

The Ridgewood, NJ-based James Rose Center for Landscape Architectural Research and Design recently announced its third biennial design competition and exhibition, ***Suburbia Transformed 3.0, One Garden at a Time: Exploring the Aesthetics of Landscape Experience in the Age of Sustainability***. The goal of *Suburbia Transformed 3.0* is to promote and celebrate residential designs that go beyond "green" by explicitly using sustainable strategies, tactics, and technologies to enrich the aesthetic spatial experience of people. The emphasis is on how such sustainable landscapes can be beautiful, inspiring, perhaps profound, and serve as examples for transforming the suburban residential fabric, one garden at a time. This is an international competition for built and visionary (unbuilt) residential landscapes in professional and student categories. Entries are due before **February 18, 2014**; click here for more info.

The focus of the Pennsylvania-based **George and Miriam Martin Foundation** is **river and watershed conservation**. "If you are interested in a grant, please send a brief letter describing how a grant will help your organization preserve streams and wetlands. There are no deadlines. We have no formal grant guidelines. Grants range from $1,000 to $150,000." Send your letter to: George and Miriam Martin Foundation, 1818 Market Street, 35th Floor, Philadelphia, PA 19103. Telephone: (215) 587-8400.

The **Walgreens Corporate Contribution Program** supports nonprofit organizations in local Walgreens communities throughout the U.S. (click here for a listing of Walgreens' Mass. locations). Walgreens provides grants to organizations that focus on access, outreach, and education geared toward health in their communities; civic and community outreach; and emergency and disaster relief. Priority is given to programs that address the health needs of community residents. The company also accepts sponsorship or promotional marketing requests. Online applications may be submitted throughout the year.

The Philadelphia-based **ACE Charitable Foundation** makes grants in the areas of education, poverty and health, and the environment. Particular consideration is given to opportunities where ACE employees' time and expertise can be utilized in addition to financial support. Click here, here and here for more info.

The Illinois-based **Lumpkin Family Foundation** "is dedicated to supporting education, preserving and protecting the environment and fostering opportunities for leadership" (click here for more details). While the Foundation gives special consideration to projects in east central Illinois, grants are occasionally made elsewhere, including New England. Prospective applicants are asked to submit a letter of inquiry (click here for more details).

The **Fanwood Foundation** (no web page) makes grants to a large number of civic, cultural, environmental and other organizations. Groups seeking funding should include an explanation of the purposes for which funding is sought, a project and organization budget, a recent audit and the 501(c)(3) tax exemption letter from the IRS. Submit it to: Victor E.D. King LLC, Fanwood Foundation c/o Bessemer Trust, P.O. Box 5244, Plainfield, NJ 07061-5244. Telephone: (908) 756-7804.

The Minnesota-based **Steven C. Leuthold Foundation** (no web page) makes grants to a wide variety of conservation and other organizations, some of which are New England-based. Prospective grant seekers are requested to send a letter stating the purpose for the requested funds and relevant information on the requesting organization's activities. Send it at any time to: Steven C. Leuthold, 33 South 6th Street, Minneapolis, MN 55402. Telephone: (612) 332-1567.

Recipients of grants made by both the **Allan B. and Frances M. Roby Charitable Trust** and the **Stannard & Dorothy Dunn Charitable Trust** (no web pages) include a number of conservation organizations active in New England. Groups seeking funding from either Trust should do so in the form of a written letter. Letters to the Allan B. and Frances M. Roby Charitable Trust should be c/o David Roby, and letters to the Stannart & Dunn Trust should be sent c/o Barbara Roby. The address for both is 7 Bliss Lane, Lyme, NH 03768. Telephone: (603) 795-2080. There are no specified application forms or deadlines.

The **Alces Foundation** (no web page) makes grants (generally in the $5-10,000 range) to conservation and other organizations, primarily in Massachusetts and other New England states. Grant seekers should submit requests to: F. Colloredo-Mansfeld, Alces Foundation, c/o Cabot Properties, One Beacon St., Boston, MA 02108. Telephone: (617) 523-1635. While the funding sought must be for charitable purposes or for the support of a charitable organization, there are no other specified application formats, requirements or deadlines.

The **Nancy and Maurice Lazarus Fund** (no web page) makes small-sized grants (generally $500 or less) to a large number of medical, cultural, educational and environmental charities, primarily in Massachusetts. Groups seeking funding should do so in the form of a letter stating the request, the amount sought and the usage of the requested funds. Send it to: Carol Lazarus, Nancy & Maurice Lazarus Fund, 304 School St., Watertown, MA 02472. There are no specified application forms or deadlines.

The Cape Cod-based **Lyndon Paul Lorusso Charitable Foundation** makes grants to 501(c)(3) organizations primarily located on Cape Cod, Martha's Vineyard and Nantucket, primarily for projects that benefit children and young adults. The Foundation invites prospective grant seekers to contact Foundation staff prior to submitting a letter of request to determine whether their organization and/or proposed project are good candidates for funding; click here and here for more info.

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Calendar

(sorted chronologically by date of event, submission deadline, etc. Descriptive text for events provided below is obtained from the events' web pages.)

This fall, the National Park Service, in cooperation with the Appalachian Mountain Club and Connecticut Forest & Park Association, will be presenting ***To Be At The Farther Edge: Photographs along the New England Trail***, an exhibition of panoramic photographs by renowned artist Barbara Bosworth, the first National Park Service Artist-in-Residence of the New England National Scenic Trail (NET), and taken along the trail over the past year. The photographs will be displayed at nine different sites – each with its own relationship to the trail – to form a unique exhibition that viewers can experience at their own pace and following their own path. Click here for exhibit locations and dates, and here for info on the exhibit from Barbara Bosworth's web page, including a video introduction.

During ***COASTSWEEP***, the annual coastal cleanup campaign sponsored by the Mass. Office of Coastal Zone Management, thousands of volunteers throughout the Commonwealth collect marine debris, such as trash, fishing line, and any other human-made items, and record what they find. COASTSWEEP is part of the International Coastal Cleanup organized by Ocean Conservancy in Washington, DC. The information recorded by participants all over the world is used to identify sources of debris and develop initiatives to reduce the problem. COASTSWEEP cleanups began in September and continue into October; click here or check out COASTSWEEP on Facebook or Twitter for more info. For more about marine debris and how to prevent it, see the CZ-Tip - Help Clean up Massachusetts Shores at COASTSWEEP.

Island Press' Conservation Finance Network and the Yale Center for Business & the Environment are co-sponsoring ***Nature's Returns: Investing in Ecosystem Services: A mini-series on green infrastructure***, all running from 12:00 Noon – 1:00 PM: *Private Investments in Natural Infrastructure* on **October 2**; *Urban Stormwater Management in the Chesapeake Bay* on **October 7**; and *Green Infrastructure Tools in the Nation's Capital* on **October 16**. Click here to sign up or for more info.

The ***2013 Massachusetts Green Careers Conference*** will be taking place on **Thursday, October 3** from 8:00 AM – 4:00 PM at the Holiday Inn in Marlborough. Click here for a detailed agenda and here to register, or contact Conference Director Jen Boudrie at JenBoudrie@gmail.com or (508) 481-0569 for more info.

The Town of Barnstable Growth Management Department is participating in a study with partners (MIT's Science Impact Collaborative, the Waquoit Bay National Estuarine Research Reserve and the Consensus Building Institute) to **test an innovative way to help coastal communities understand and prepare for the potential impacts of climate change**. The project partners invite you to participate in a role-play simulation workshop on **Thursday, October 3, 2013** from 1:00PM - 3:30PM at the Waquoit Bay Reserve Headquarters that will explore various approaches to decreasing vulnerabilities to climate change threats and gauge community consensus on climate change adaptation strategies. During this interactive workshop, participants will engage in a mock negotiation about how to deal with flooding risk in a coastal community similar to Cape Cod towns. Participants are given realistic scientific information to help them decide how they might go about addressing potential climate change impacts. There is no cost to attend, but **registration is required**. Light refreshments will be available. Click here to register or for more info. This program is part of the New England Climate Adaptation Project.

The ***2013 New England Bike-Walk Summit*** will be held on **Friday, October 4** in Providence, RI. Click here or contact Eric Weis at East Coast Greenways at eric@greenway.org or (401) 450-7155 for more info.

The **Connecticut River Watershed Council** (CRWC)'s ***Source to Sea Cleanup*** is an annual trash cleanup of the Connecticut River system – rivers, streams and banks, parks, boat launches, trails and more. Each fall, thousands of volunteers of all ages and abilities head out to places of their choice all along the four-state watershed (NH, VT, MA, CT) to clean the Connecticut River and its tributaries on foot or by boat (Read about the 2012 event in the

Cleanup Chronicle). This year's *Cleanup* is scheduled to take place on **Friday-Saturday, October 4-5, 2013**. Click here for more details on and to sign up for this year's *Cleanup*, or contact the CRWC at (413) 772-2020 for more info.

The **Nashua River Watershed Association** (NRWA) and the **NH Paddlers Committee of the Appalachian Mountain Club** (AMC) are co-sponsoring a ***"Trash Patrol" paddle*** on a flatwater section of the Nashua River in Pepperell on **Saturday, October 5, 2013**. Enjoy a day of paddling and leave the river cleaner than you found it. Click here or contact trip leader Denise Hurt [(603) 889-4812 (before 9PM) or hurt28@charter.net) to sign up or for more info.

The **Housatonic Valley Association** (HVA) is sponsoring a ***Housatonic River Canoe Paddling Tour Through Ashley Falls*** on **Saturday, October 5**, beginning at 10:00 AM. The tour, led by HVA staffpersons Dennis Regan and Alison Dixon, is on a section of the river that is predominantly flatwater, flowing in wide meandering bends. It passes though a rural, scenic area with pastures, woodlands, and views of surrounding mountains. A short portage is necessary about 3 miles from the start. This 9-mile paddle should take 4-5 hours to complete. Click here or call the HVA at (413) 394-9796 for more info.

The Ecological Landscaping Association (ELA) is sponsoring several courses this fall that may be of interest: ***Invasive Plant ID: Replacing With Native Plants***, on **Saturday, October 5** in Newton; ***Identify and Control Invasive Plants***, on **Saturday, October 12** in Newton; and **ELA Season's End Summit: Taking Stock and Looking Forward – Natural Landscapes**, on **Tuesday, November 5** in Stoneham. Click here for more info.

Lawyers Clearinghouse is offering several free training sessions this fall: ***Merger and Collaboration Strategies for Nonprofits*** on **Tuesday, October 8**; and ***Volunteers, Interns and Independent Contractors: Practical Tips for Nonprofits*** on **Monday, October 21**; and ***Corporate Governance for 501(c)(3) Organizations and their Board Members*** on **Thursday, October 24**. All of these sessions are held from 9:00 AM-11:00 AM at the Boston Private Bank & Trust Company, 10 Post Office Square in downtown Boston. Click here or contact Ms. Machiko Sano Hewitt [(617) 778-1954 or msanohewitt@lawyersclearinghouse.org] to sign up or for more info.

A program entitled ***Healthy By Design: Planning & Development for Vibrant Communities*** is scheduled to take place on **Wednesday, October 9** from 1:00PM to 2:30 PM in the House Members' Lounge at the Massachusetts State House in Boston. Internationally-renowned public health, planning, and transportation expert Mark Fenton will speak about how important planning and community design are to public health. Contact Danielle Seaton Shea of the Mass. Public Health Association at dseatonshea@mphaweb.org or (857) 263-7072 ext. 109 to RSVP, or click here for more info.

Mass. Audubon's ***Shaping the Future Program*** is hosting a **free workshop on the Community Preservation Act** (CPA) on **Wednesday, October 9, 2013** from 4:00 PM – 6:00 PM at the Leominster Public Library. Learn how the CPA can help your community preserve open space and historic sites, create affordable housing and develop outdoor recreational facilities. Presenters will discuss projects communities have completed under the CPA and the costs and benefits of the program to communities, as well as the recently passed improvements to the CPA. The BioMap2 tool will also be covered, as it can help communities use CPA funds strategically by focusing land protection efforts on areas that are the most critical. Pre-registration is required; click here or call (781) 259-2146 to sign up or for more info.

The Center for Watershed Protection (CWP) is hosting two webinars this fall: ***Stormwater Trading - Markets or Mayhem?***, on **Wednesday, October 16** (12:00 noon – 2:00 PM), when you can learn how various pollutant trading programs are faring around the country; and ***Stormwater Utilities: Reckoning the Cost Side of the Equation*** on **Wednesday, November 20** (12:00 noon – 2:00 PM), when you can learn about resources and case studies for stormwater utility program development or modification to hone costs and implement best management practices.

The ***Coastal Wetlands Conference of 2013***, hosted by the New Hampshire Association of Natural Resource Scientists (NHANRS), will be held on **Friday, October 18** at the Seacoast Science Center at Odiorne Point State

Park in Rye, NH. Click here to sign up or for more info.

Water quality standards are the cornerstone of state and federal water quality laws and regulations. An unusual, valuable **and low-cost** opportunity to receive comprehensive training in this topic is coming up this fall. The U.S. EPA is hosting a ***Water Quality Standards Academy*** (WQA) that will take place in Washington, DC from **December 9-13, 2013**. The *Academy* is a comprehensive and highly structured course that introduces students to all aspects of the water quality standards program, including: the interpretation and application of water quality standards regulations, policies and program guidance; the development of water quality criteria (human health, aquatic life, nutrient, and biological); and other facets of the EPA water program. While **this five-day course is offered free of charge**, **you must apply to attend**. Click on http://www.horsleywitten.com/WQSA to access the online application form. While online registration is preferred, you may also apply by phone by calling the EPA's WQSA Registration Coordinator and EPA contractor, Erin Cabral, at (508) 833-6600. Applications are **due** by **Monday October 21, 2013**.

The ***Moving Together 2013*** conference will be held **Wednesday, October 23, 2013** from 7:45 AM – 4:00 PM, at the Park Plaza Hotel in Boston. MT13 features leaders who are advancing Healthy Transportation, and offers an array of workshops geared to the central theme, TRANSIT + WALKING + BICYCLING = MOBILITY. MT13 will also feature a Plenary where participants will prioritize "Mode Shift" strategies for MassDOT's consideration. The Conference's chief sponsor is GreenDOT, MassDOT's comprehensive sustainability policy that promotes the healthy transportation modes of walking, bicycling and transit. Click here or call the Baystate Roads program at (413) 577-2762 to register for the Conference.

The New England Water Works Association (NEWWA)'s ***2013 Water Resources and Sustainability Symposium Many Views - One Goal: Broadening Our Perspectives on Water Resource Sustainability***, is scheduled to take place on **Thursday, October 24, 2013** from 8:30 AM – 4:00 PM at the Westford Regency Inn and Conference Center. Speakers will cover such topics as drought planning, successful implementation of water conservation/demand management measures, and water ethics. Thanks to sponsoring organizations, the registration fee for watershed organizations, regulatory agencies, water suppliers, and other related non-profit organizations has been reduced to $80 (the normal fee is $170). Click here to register or for more info.

A **free** workshop entitled ***Building Resilient Communities - Low Impact Development and Green Infrastructure Strategies*** is scheduled to take place on **Thursday, Oct 24, 2013**, from 4:30 PM – 6:30 PM at Bridgewater State University, 131 Summer Street, in Bridgewater. Presenters will include Scott Horsley, President, Horsley Witten Group, a local and international expert in Low Impact Development, and Heidi Ricci, with Mass Audubon's award winning *Shaping the Future of Your Community* program. Pre-registration is required; click here or contact Stephanie Elson at (781) 259-2146 or email shapingthefuture@massaudubon.org to register or for more info.

River Network and the **Waterkeeper Alliance** are currently (until **October 24**) seeking workshop proposals for presentations at ***River Rally 2014***, scheduled to take place in Pittsburgh from **May 30-June 2, 2014**. Sessions at River Rally are (on average) 90 minutes and seek to cover a wide range of topics including organizational health, technology, communication, advocacy, the Clean Water Act (and other laws), green infrastructure, resource extraction, water quality monitoring, working with officials, etc. Presenters should focus on providing participants with 'take-home' tools that can be incorporated into their specific projects. Interactive, engaging sessions are especially appreciated. Click here to submit a proposal or contact Katherine Luscher [kluscher@rivernetwork.org or (503) 542-8397] for more info.

The ***9th Annual Connecting for Change Conference***, to be held in New Bedford from **October 25-27**, is a solutions-based gathering, featuring over 10 keynote speakers (such as James Hansen, Maggie Fox and Dr. Eben Alexander), over 50 workshops (including two on community and grassroots organizing), Family and Youth programming, exhibitor hall, farmer's market, films and live music, local food, art installations, and more. To register, volunteer, or apply for a scholarship visit connectingforchange.org or call (508) 748-0816.

The Merrimack River Watershed Council (MRWC) is very proud to announce its first annual ***Merrifest***, a celebration of the Merrimack River and the values it offers to Valley visitors as well as those who use the river on a daily basis. (That includes almost everyone in the Merrimack Valley, as the River is the source of drinking water for Lowell and other river communities.) The MRWC works to protect that water so that everyone can enjoy it for the years to come. ***Merrifest*** is scheduled to take place on **Saturday, October 26** from 11:00 AM – 3:00 PM at DCR's Heritage State Park in Lowell and will include carnival games, fun food, restaurant vendors, kayak races, raffles and silent auctions and live bands. Click here for more info, including opportunities to volunteer at the festival.

The Charles River Watershed Association will be conducting a **clean up** along the banks of the Charles River along Charles River Road in Watertown on **Sunday, October 27**. Volunteers will enjoy a fall afternoon as they help pick up litter along the bike path and parklands and contribute to a healthier Charles River**.** The Watertown cleanup is part of COASTSWEEP, the Commonwealth's annual coastal cleanup program, organized by the Massachusetts Office of Coastal Zone Management. **Space is limited,** so sign up today or contact Cleanup Coordinator Alexandra Ash.

While the benefits of protecting our forests, farms and river corridors are well appreciated, **green investment** pays many other dividends. Our health, and that of subsequent generations, depends upon the health of our environment. Land conservation and greening our communities contributes to better quality of life by creating more livable neighborhoods, preserving biodiversity, maintaining clean air and water, providing access to outdoor recreational opportunities and to fresh, local food. The Massachusetts Land Trust Coalition (MLTC) is currently (until **October 28**) seeking proposals for workshop presentations for the **24th Massachusetts Land Conservation Conference**, scheduled to take place in Worcester on **Saturday, March 22, 2014**. The 2014 conference theme is "***Healthy Land – Healthy Communities***". Presentations are sought for the following workshop tracks: Healthy Land -Healthy Communities & Emerging Issues; Land Management & Stewardship; Land Protection Tools & Techniques; Legal, Tax & Compliance Matters; Organizational Management & Fundraising; and Urban Conservation & Greening. Click here or contact Kathy McGrath at kmcgrath@massland.org to submit a proposal or for more info. [Click here to access presentations made at the 2013 Mass. Land Conservation Conference.]

The Massachusetts Nonprofit Network (MNN)'s ***Annual Conference, Solutions 2013: The Intersection of People & Technology***, will take place on **Tuesday, October 29, 2013** in Framingham. Click here and here to download detailed info on the workshops to be offered, and here to register.

Take It Down! is the title of a free program to be offered at the Berkshire Athenaeum (aka the Pittsfield Public Library) on **Tuesday, November 5** from 6:30 PM – 8:00 PM. The program will feature a PowerPoint presentation and discussion on the progress of the **Sackett Brook Dam Removal and Restoration Project**. Featuring photos of the engineering, archeological, wildlife and other pre-construction professional surveys, the public is invited to learn of the progress and future plans for Sackett Brook as it winds through Mass. Audubon's Canoe Meadows Wildlife Sanctuary. Click here for more info on the presentation, and here or here for more details on the project.

StormCon, the North American Surface Water Quality Conference and Exposition, is now **seeking abstracts for presentations at *StormCon 2014***, which will take place August 3 - 7, 2014, in Portland, Oregon. Abstracts are being sought for these topics: BMP Case Studies; Green Infrastructure; Stormwater Program Management; Water Quality Monitoring; Industrial Stormwater Management; Advanced Research Topics; and Coastal Protection. The deadline for submission is **Thursday, November 14, 2013**; click here to submit an abstract or for more into.

Invasive species are prevalent on the New England landscape, despite best efforts to control them. Funding, staff resources, and commitment are essential for proper management (and eradication, where possible). To be effective in this battle, we need to prioritize the invasive species we are targeting, and develop consistent criteria by which we identify the most important taxa to manage. The Massachusetts Association of Conservation Commissions (MACC) will be hosting its Fall Conference, ***Invasive Plant Species: Pick Your Battles to Win!***, on **Saturday, November 16, 2013** at Clark University in Worcester. Through various presentations and case studies, learn how land managers

tackle this problem and how Conservation Commissions can permit certain invasive species work. Participants will come away from this conference with exciting and new electronic tools for plant identification as well as examples of how invasive species projects can be funded. In addition, participants will leave with a renewed appreciation of the essential role native plants play in sustaining native wildlife populations. Click here to download a detailed agenda and here to register, or contact MACC staff at staff@maccweb.org or (617) 489-3930 for more info.

Are alpine environments threatened because forests may expand uphill with global warming? Is maple syrup likely to remain a viable product in New England? How will salt marshes and other coastal habitats be affected by sea level rise? Will we see more invasive plants in New England? Learn what scientists know about climate change, including past warmings, and what we can expect for the future at a workshop entitled ***Ecological Impacts of Climate Change in New England***, to take place at the New England Wild Flower Society's Garden in the Woods in Framingham on **Sunday, November 17** from 1:30 PM – 3:30 PM. Ailene Kane Ettinger, Ph.D., Botanist and Ecologist, will discuss what remains uncertain and what can be expected for New England's flora, fauna, and unique habitats. Find out about resources for continued learning and ways to take action yourself on climate change. Click here to sign up or for more info.

The ***2013 Massachusetts Smart Growth Conference*** will take place on **Wednesday, November 20** at the Boston Convention & Exhibition Center. "Join public, private, and civic leaders at the state's premier sustainable development event to explore: how smart growth can save public and private dollars; why segregated development patterns threaten our economy and what communities and regions can do about it; and what the next generation of smart growth policy and infrastructure will look like". Workshop topics include "How to Make Your Neighborhood Great" and "Fixing Water to Fix Sprawl". Click here to download the event program and here to register or for more info.

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On-line Resources

(Descriptive text provided is obtained from the web pages themselves.)

The **U.S. EPA** recently released **proposed changes to the Clean Water Act's Water Quality Standard**s (WQS). The EPA has proposed clarifications in the following six program areas: (1) the EPA Administrator's determinations that new or revised water quality standards are necessary, (2) designated uses for water bodies, (3) triennial reviews of state and tribal WQS, (4) antidegradation provisions to protect water quality, (5) variances to WQS, and (6) compliance schedule authorizing provisions. The EPA is accepting public comments on these proposed changes; submit your written comments to Docket ID No. EPA-HQ-OW-2010-0606 using one of the methods identified in the in the Federal Register Notice. **The public comment period closes on December 3, 2013**. In the meantime, the EPA is hosting a **free webinar** explaining the proposed changes on **Thursday, November 14** from 1:00 PM – 3:00 PM; click here to sign up or for more info.

Earlier this month, **the EPA**, through its independent **Science Advisory Board** (SAB), released for external (public) comment a draft scientific report, ***Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence***. This draft report synthesizes more than 1,000 peer-reviewed pieces of scientific literature about how smaller, isolated water bodies are connected to larger ones, and represents the state-of-the-science on the connectivity and isolation of waters in the U.S. The final version of this report will serve as a basis for a joint EPA and Army Corps of Engineers rulemaking aimed at clarifying the jurisdiction of the Clean Water Act. The proposed joint rule will provide greater consistency, certainty, and predictability nationwide by providing clarity for determining where the federal Clean Water Act applies and where it does not. Click here to download the 331-page report, here for more info, here for instructions on how to submit comments (the **deadline**

for which is **November 6, 2013**), and here to read a recent EPA blog posting on this topic.

The U.S. EPA's ***Urban Waters Voices*** series of twelve video interviews features locally-led efforts to restore urban waters in communities across the United States. These YouTube videos feature local efforts and strategies to improve urban water quality while advancing local community priorities. The video interviewees include Bob Zimmerman, Executive Director of the Charles River Watershed Association, EkOngKar "EK" Singh Khalsa, Executive Director of the Mystic River Watershed Association, and Mary Rickel Pelletier, Director of Park Watershed, Inc. (Hartford, CT). [Click here to see a YouTube video on a recently-installed **porous pavement project** in Arlington along Mill Brook, a tributary to the Mystic.]

Each year billions of gallons of raw sewage, trash, household chemicals, and urban runoff flow into our streams, rivers and lakes. Polluted stormwater runoff can adversely affect plants, animals, and people. It also adversely affects our economy – from closed beaches to decreased fishing and hunting in polluted areas. Green infrastructure is an affordable solution to promote healthy waters and support sustainable communities. As Part of President Obama's Climate Action Plan, the EPA recently released a ***National Stormwater Calculator***, designed to help property owners, developers, landscapers, and urban planners make informed land-use decisions to protect local waterways from pollution caused by stormwater runoff. The Calculator is a desktop application that estimates the annual amount of stormwater runoff from a specific site, based on local soil conditions, slope, land cover, and historical rainfall records. Users can enter any U.S. location and select different scenarios to learn how specific green infrastructure changes, including inexpensive changes like rain barrels and rain gardens, can prevent pollution. This information helps users determine how adding green infrastructure can be one of the most cost-effective ways to reduce stormwater runoff. Click here to view a short video about this new tool, and here to find out about a free webinar on **Wednesday, October 2** on the National Stormwater Calculator.

Developed and recently launched by the U.S. Geological Survey (USGS), ***Biodiversity Information Serving Our Nation*** (**BISON**) is a unique, web-based Federal resource for **finding species in the U.S. and territories**. Its size is unprecedented, offering more than 100 million mapped records of nearly every living species nationwide and growing. And the vast majority of the records are specific locations, not just county or state records. What's more, BISON provides an "Area of Interest" search capability in which users can query by drawing the exact boundary around their area of interest, down to and including towns, villages, or even much smaller areas such as parks. Other BISON search options include querying the species by scientific or common name, year, range, state, county, basis of record, or provider institution. BISON displays search results in both an interactive map and a list format. Users can click on each species occurrence point to retrieve more information, such as the institution providing the data, the collector, the date collected, and whether it was from a collection or an observation. Further, occurrences can be dynamically visualized with more than 50 other layers of environmental information in the system.

The USGS anticipates that BISON users will be broad-based and include land managers, researchers, refuge managers, citizen scientists, agriculture professionals, fisheries managers, water resource managers, educators, and more. **Land managers, for instance, might be looking for a piece of land to purchase for conservation – but first they want to know what species have been documented for that parcel. BISON will tell them after only a few mouse clicks**. BISON already includes millions of points from the Federal investment in biodiversity research. It is also formally cooperating with other Federal agencies to greatly expand the delivery of federally funded biodiversity data for the greatest possible good. Hundreds of thousands of citizen and professional scientists have collected the data in BISON. **Non-governmental organizations, state and local governments, universities, and many others are also participating in this enormous undertaking**. The USGS has built and maintains BISON, which is hosted on the massive Federal computing infrastructure at Oak Ridge National Laboratory. Click here for more info.

The Federal Emergency Management Agency (FEMA) recently created the ***Coastal Flood Hazard Mapping Studies Fact Sheet*** to highlight general information and resources related to the ongoing coastal flood hazard mapping studies, answer common questions, and explain the benefits of the studies. For more information, visit the new Coastal Flood Risk website and for periodic news through email, sign up to the Coastal Flood Risks email list.

Coast Guide Online, the Mass. Office of Coastal Zone Management (MCZM)'s new, interactive, online mapping tool, can be used to find (and find out about) **coastal areas of the Commonwealth that are open to the public**. It includes hundreds of sites along the Massachusetts coast – from sandy beaches to secluded coves, rocky shores, and boat ramps – owned by government agencies and major nonprofits. In order to use this new tool, though, you first need to load **Google Earth** onto your desktop or mobile device, as each public location has been tagged with a name, owner, web link, and picture (if available). Users may use additional Google Earth offerings, such as user photos, trails, and places of interest, to create a customized map. As of now, all federal, state, and county coastal public access sites have been mapped; town and land conservation organizations are expected to be added as soon as possible. [In the meantime, MCZM's *Massachusetts Coast Guide to Boston and the North Shore* includes the municipal + nonprofit public access point data from Boston Harbor northward.]

The Summer 2013 edition of ***Mass Interchange***, a quarterly newsletter published by the Baystate Roads Program, features an article on **re-purposing liquid de-icer storage tanks for rainwater harvesting** at MassDOT's Upton Depot, and on an **innovative water bypass method** that enabled the Arlington DPW to repair streambank storm damage to Arlington's historic Mill Brook without affecting water quality in the brook. [An article on **structurally and ecologically sound stream crossing design** written by Julia Blatt of the Massachusetts Rivers Alliance appears on pp. 4-5 of the Winter 2013 edition of *Mass. Interchange*.]

The forests of Massachusetts provide tremendous public benefits including clean water, clean air, forest products, employment opportunities, outdoor recreation, wildlife, and carbon sequestration. Harvesting renewable wood products can be a tool to enhance these benefits. However, harvesting using heavy equipment can disturb soil through compaction and rutting and result in overland flow that can carry sediment. If sediment gets into rivers, streams, lakes, ponds, or wetlands, it is called nonpoint source pollution. **Adopting forestry Best Management Practices (BMPs) can substantially reduce the adverse impacts of tree cutting and other forestry practices on aquatic and other ecologically sensitive organisms and habitats**. Recently published by the Mass. Department of Conservation and Recreation (DCR), ***Massachusetts Forestry, Best Management Practices Manual, 2nd Edition***, is a significant improvement in both content and layout over the previous edition (now over a dozen years old). While following these forestry BMPs are required in order to comply with various laws and regulations (the Mass. Forest Cutting Practices Act and the Wetlands Protection Act, e.g.) the BMPs in the manual are worth doing even if not legally obligated to. Produced by Paul Catanzaro and David Kittredge of UMass/ Amherst and Jennifer Fish of DCR, The *Manual* is recommended reading for any person, organization or department involved in owning and/or managing public or private forest land, as well as anyone concerned about proposed or ongoing forestry operations taking place near or otherwise affecting wetlands or waterways. Click here to download a copy of the new *Manual*.

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Non-government On-line Resources

(in rough alphabetical order – the following are offered for information purposes only and are not an endorsement of the items listed below. Descriptive text provided is obtained from the web pages themselves.)

Alliance for Water Efficiency (AWE)
http://www.allianceforwaterefficiency.org

In times of drought when supplies are short, utilities ask customers to conserve through restrictions and other forms of demand reduction measures. Yet in times of abundance, when it has rained a lot and consumer outdoor water use is down, utilities sometimes beg for higher water sales in order to meet fixed system costs. Worse, needed

water efficiency programs are cut when utility revenues decline because the desire to sell more water is paramount. Click here to access an archived AWE webinar from 6/18/13 entitled ***Our Current Revenue Loss Dilemma - Is Consumer Conservation Really the Culprit?***, which discusses the true causes of the current water utility revenue losses and provides guidance on how to consider conservation a financial asset to the utility and not a detriment. [Also available at the AWE website is the related report ***Declining Water Sales and Utility Revenues: A Framework for Understanding and Adapting***.]

American Water Resources Association (AWRA)
http://www.awra.org

Founded in 1964, the AWRA is a non-profit professional membership association of water resources experts (including engineers, educators, foresters, biologists, ecologists, geographers, managers, regulators, hydrologists and attorneys) dedicated to the advancement of water resources management, research, and education. Resources on the AWRA web page include proceedings of two AWRA-sponsored conferences held this past June in Hartford, CT: ***Environmental Flows*** and ***Healthy Forests = Healthy Waters***, as well as an opportunity to subscribe to (and read past editions of) AWRA's free (i.e., don't have to be an AWRA member), content-rich ***Connections*** monthly electronic newsletter.

Bay Circuit Alliance (BCA)
http://baycircuit.org/wordpress

The BCA is the main coordinating organization for and proponent of the **Bay Circuit Trail and Greenway** (BCT), originally proposed in 1929 as an "outer Emerald Necklace" for the Greater Boston metropolitan area. Since its founding in 1990, the BCA and its many partners have worked hard to make the BCT a reality. The BCA has focused on linking segments of the Bay Circuit Trail, a recreational pathway, while ensuring the protection of open space in the region by adding more "pearls" to the "emerald necklace." Beginning at Plum Island on the North Shore, and following a >100-mile, **C**-shaped route ending in Kingston Bay, just north of Plymouth, the close-to-complete BCT is located in close proximity to four million people. The Trail provides close-to-home recreation, including walking, biking, snowshoeing, horseback riding and cross-country skiing. Many sections of the BCT are accessible by MBTA commuter rail and other public transit systems. While content is still being added, the BCA's recently spiffed-up website already includes detailed descriptions and maps for 15 of the BCT's 16 segments, as well as a new ***Hikes along the Bay Circuit Trail*** guide, which features seven fun and easy day-hiking opportunities along scenic sections of the completed BCT.

BigLeap
http://www.bigleap.org

Recently launched by a team of Internet and software veterans who believe that "everyone in the world can be a catalyst for positive change" and that "small teams can best solve the world's toughest problems", BigLeap provides a platform that enables anyone to solve a pressing social problem by creating a challenge competition. Challenges are created through a simple three-step process: setting a tangible goal related to a greater good (e.g., improving the efficiency of solar panels by 75 percent); crowdfunding a reward or prize to power the challenge; and mobilizing a team, from around the corner or around the world, to compete for the prize. A prize is awarded only when a challenge is met, while donations to challenges that aren't met within a designated timeframe are refunded or transferred to another challenge. Click here for more info.

Boston Green Map
http://bostongreenmap.org

"Looking to explore your neighborhood and get outside more? The **Boston Green Map** contains a detailed and easy-to-use listing of all parks and open spaces in Greater Boston, as well as information about the facilities they contain, such as playing fields, walking trails, beaches, and much more! Currently the website covers all neighborhoods in Boston and seven surrounding municipalities: Arlington, Belmont, Brookline, Cambridge, Chelsea, Somerville, and Watertown. More communities will be added soon." A related smartphone app is also under development. Contact Jessica Robertson [(617) 933-0745, jrobertson@mapc.org] for more info. [See also Circle the City and the Green Spaces: Boston smartphone app.]

Center for Watershed Protection (CWP)
http://www.cwp.org

Resources recently posted to CWP's website include a new and improved Watershed Treatment Model (WTM), making it easier for new to experienced practitioners to estimate benefits from a wide range of stormwater runoff and pollutant removal practices. The Summer 2013 edition of *Runoff Rundown* features stories on Outfall Bag Filters for Cost-Effective Nutrient Source Control and stormwater BMP retrofitting in previously developed areas with little or no stormwater treatment. Postings to the CWP's *Runoff Ramblings* blog include rain gardens, the importance of headwater stream protection, phosphorous removal, stream restoration crediting for meeting sediment and nutrient goals, green infrastructure and a "Spiral Wetland" eco-art installation. [Click here to learn about CWP's Watershed and Stormwater Professionals LinkedIn group.]

Ecological Landscaping Association (ELA)
http://www.ecolandscaping.org

Founded and based in New England, ELA is a nonprofit, member-based organization made up of professionals, businesses and pro-active community members who believe in using landscape practices that are environmentally safe and beneficial. Resources on the ELA website include many informative articles, such as: *Encouraging Citizen Action to Soak up the Rain*; *Proper Maintenance Keeps Rain Gardens Thriving*; and *Successfully Managing Phragmites*, written by Restoration Ecologist Tim Simmons of the Mass. Natural Heritage and Endangered Species Program. The website also has a "Find an Eco-Pro" searchable database to help you identify environmentally-responsible landscape professionals in your area.

Gulf of Maine Council on the Marine Environment (GOMC)
http://www.gulfofmaine.org

GOMC recently released two new theme papers as part of the *State of the Gulf of Maine Report*. ***Coastal Land Use and Development*** focuses on land use changes and land development—human settlements, structures, and economic activity—in municipalities bordering the Gulf of Maine, the impacts, and current actions and responses, including integrated coastal management, local land-use planning, and land conservation and habitat restoration. ***Species at Risk*** explores the driving forces and pressures on species in the Gulf of Maine, current status and trends, impacts of protecting species at risk, and existing policies and practices for the preservation of biodiversity and endangered species.

Our Healthy Massachusetts
http://ourhealthymass.org

This new website is intended to be a one-stop data info hub for assisting Massachusetts residents in learning about the health of their communities. The website contains several interactive features; including: health profiles for cities

and towns; interactive Maps; data stories on health topics; and information on health programs. The content on this site is thin at present but should improve over time.

Mass. Audubon's Connections Newsletter
https://www.massaudubon.org/PDF/connections/MASConn_Fall13.pdf

Clicking on the above link will download the most recent (Sept-Dec. 2013) issue of Mass. Audubon's ***Connections*** newsletter, which features articles entitled *New Reports Share the State of Our Birds* (on pp.4-5), which discusses the new *Massachusetts Breeding Bird Atlas 2* and *State of the Birds 2013* reports and findings; and *Helping Turtles Go With The Flow: Dam Removal to Restore Diversity* (p.7), which describes the removal of a dam on Sackett Brook in Pittsfield, a project DER assisted on (click here for info about a free presentation on this project on **November 5**). [N.B.: Mass. Audubon's Audubon Shop at Drumlin Farm recently launched an online store and now offers online shopping opportunities for many products, including Bird Feeders, Books, Gifts, Kids and Optics.]

New England Grassroots Environmental Fund (NEGEF)
http://www.grassrootsfund.org

NEGEF provides small grants to small-sized (<$100,000 annual budget) environmental groups, and provides training and support for those groups (e.g., the annual RootSkills conference). In that vein, NEGEF's recently established bi-monthly **RootShare** email newsletter reports on "Cool Connections, Inspiring Ideas and Support" resources, many of which NEGEF finds out about from its current and past grassroots grants recipients. Click here to read the first RootShare and here for more info on how to sign up for the newsletter.

PlantShare
https://gobotany.newenglandwild.org/plantshare

Recently added to **Go Botany**, the New England Wild Flower Society (NEWFS)'s user-friendly online identification guide to the vast majority of the plant species known to occur in New England, the PlantShare tool enables you to upload photos of plants to share with others, create checklists of plants you want to keep track of, publish the location of the plants you have seen on your own map, pose questions to one of NEWFS's expert botanists, and share your thoughts and musings with others. Click here to join PlantShare or for more info.

River Network Webinars
www.rivernetwork.org/river-network-webinars

Throughout the year, River Network provides webinars on topics of interest to the river conservation community. The link above allows you to RSVP for upcoming webinars, and view those already recorded. Recently posted to this page is an archived version of a June 19 webinar entitled ***Getting Beyond the Like: Keys to Social Media Engagement***, presented by Andrea Berry of Idealware. Look for an archived recording of another webinar, ***Databases for River and Watershed Groups***, later this fall.

River of Words Along the Connecticut River
http://row.ctriver.org

A project of the Connecticut River Watershed Council and inspired by the West Coast-based River of Words, *River*

of Words along the Connecticut River is an **environmental art and poetry program promoting watershed awareness, literacy and the arts**. Resources at this web page include online lesson plans that highlight innovative teaching strategies for connecting youth to the natural and cultural resources of their local environments, and a Project Gallery page, which highlights the many creative ways youth are interacting with their watersheds.

Stormwater Solutions in Action
http://www.commonwaters.org/images/stories/pdfs/ssia%20071413%20final.pdf

The link above takes you to the first version of ***Stormwater Solutions in Action: An Inventory Of Projects Reducing Polluted Runoff In Massachusetts*** (SSIA), a compilation of stormwater reduction projects by the Massachusetts Watershed Coalition (MWC)'s Billion Gallons a Year (BGY) Stormwater Reduction Campaign. The SSIA Inventory "brings to public attention a sampling of the growing number of stormwater reduction projects throughout the Commonwealth. By publicizing these projects, MWC encourages everyone--homeowners, businesses, local groups, schools and municipalities--to create similar solutions." The Inventory identifies 200 projects in 60 communities reducing approximately 885 million gallons of polluted runoff each year. The Inventory is organized alphabetically by major watershed and the towns within them. Click here for more info.

Total Community Manager (TCM)
http://tcmgr.com

TCM is a user-friendly donor management system that includes flexible modules enabling nonprofit organizations to manage your entire community of contacts and your agency's unique activities. You can track your donors, volunteers, committee members, membership, event participants across your organization's activities. TCM's newest tool, the Land Trust Manager, allows land trusts to not only manage all of their property information but relate it to all their contacts and donors, and TCM's Remote Volunteer enables your volunteers, land stewards and staff to send information from any remote program/project site they are working from. Current TCM users in Mass. include the Lowell Parks & Conservation Trust, East Quabbin Land Trust, the Kestrel Land Trust, and the Lincoln Land Conservation Trust. Click here to download a 45-day free trial of this product, here to read the free blog, and here for info on a ***Culture of Philanthropy workshop*** scheduled for **November 6-7** in Concord, NH.

Watershed Action Alliance of southeastern Massachusetts (WAA)
http://watershedaction.org

WAA is an environmental advocacy coalition formed in 2002 to address the pressing ecological issues in southeastern Mass. (stormwater, e.g.), most of them resulting from rapid population growth in that region. WAA is made up of nine watershed and two pond associations, spanning 65 communities in southeastern Massachusetts. WAA's primary issues include promoting the sustainable use of water, the implementation of smart growth policies, and restoration of anadromous fish runs. Resources on the WAA webpage include a news and events page and a blog. You can also subscribe to WAA's electronic newsletter (click here to read the most recent edition).

You Generate Volunteers in Massachusetts
http://www.massvolunteers.org

Does your organization utilize volunteers? The YOU Generate campaign, the Massachusetts Service Alliance and other partners have collaborated on a series of **Volunteer Management Tip Sheets** to help organizations recruit, manage, and support volunteers. This website also offers an interface (powered by TRUiST.com) that enables prospective volunteers to search for and nonprofits, cities/towns, etc. to post volunteer opportunities in the Commonwealth.

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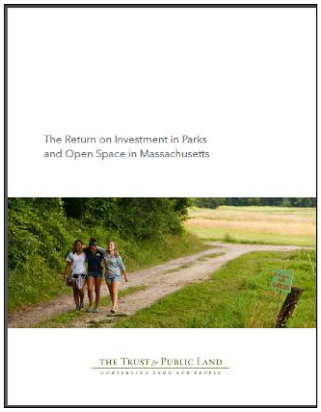
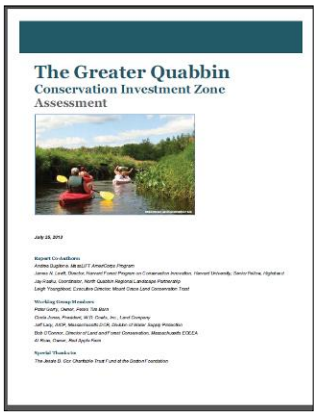
Publications, Videos, etc.

(the following are offered for information purposes only and are not an endorsement of the items listed below. Descriptive text provided is obtained from the web pages themselves.)

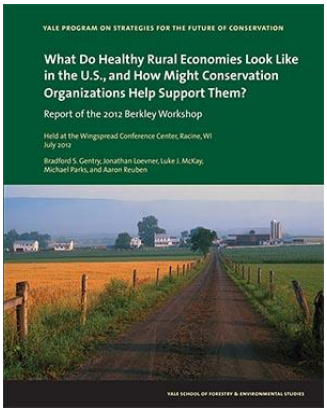
A new study released by UnitedHealth Group and the Optum Institute finds that **volunteering is linked to better physical, mental, and emotional health**. ***Doing Good is Good for You: 2013 Health and Volunteering Study*** reveals that 76 percent of U.S. adults who volunteer report that volunteering has made them feel physically healthier, and 78 percent report that volunteering lowers their levels of stress, leading to feeling better than adults who do not volunteer. Click here for a free download of this study.



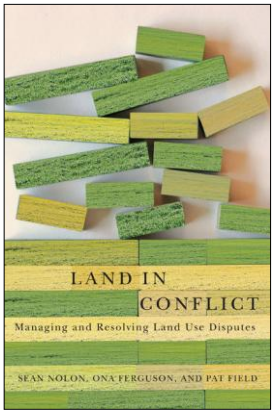
Every dollar Massachusetts spends on conservation returns $4 and supports jobs for hundreds of thousands of people is the major finding of ***The Return On Investment in Parks and Open Space in Massachusetts***, a recently-released study by The Trust for Public Land (TPL). The report found that every $1 invested in parks and open space by the state returned $4 in natural goods and services, like protecting drinking water, managing storm water and cleaning the air. "These results showed conservation is an excellent investment and they are consistent with a dozen similar studies we have conducted across the nation in the past four years", said TPL senior economist Jessica Sargent, author of the report. "Over and over again, from Maine to Arizona, we see that spending money on conservation protects jobs and shows a good return on investment", she said. Between 1998 and 2011, Massachusetts protected 131,000 acres of parks, beaches, wetlands, natural areas, and working farms and forests, Sargent said, and the state's grant programs leveraged an additional $118 million in money from other sources, including the federal and local governments, and private sources. The protected lands support jobs in a variety of industries, including, tourism and outdoor recreation, agriculture, forestry and commercial fishing. Click here to download the 50-page report, here to read the press release, and here to download the two-page Executive Summary.



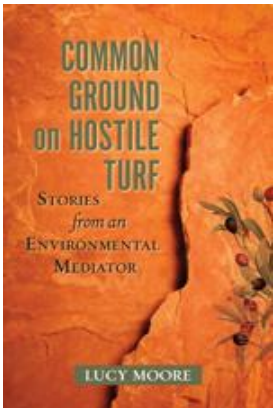
A "**Conservation Investment Zone**" (CIZ) is typically defined as a specific region or territory where partners work toward sustainable conservation and development of cities and towns, neighborhoods, working landscapes, and wildlife habitat within the defined region or territory. A CIZ seeks to provide, attract, and harness the natural, social, and financial resources that allow sustainable development. ***The Greater Quabbin Conservation Investment Zone Assessment***, recently published by the North Quabbin Regional Landscape Partnership, Harvard Forest's Conservation Innovation Program, the Highstead Foundation and Mount Grace Land Conservation Trust, identifies ways to leverage private investment and influence public policy for natural resource-based economic development and conservation in the Quabbin region of north central Massachusetts. Click here to download the report or for more info.



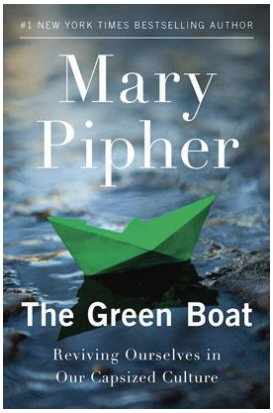
Tremendous gains in conserving land have occurred over the past few decades across urban, suburban, working and wilderness areas. At the same time, rural economies in the U.S. have continued to evolve, with large areas depopulating as a result of shifts in production and accompanying economic decline, others experiencing intensive resource development and production, and still others attracting tourists and second-home owners. Where does the conservation of land fit into this evolution? How has it added to or detracted from a healthy future for rural areas and their residents? How might conservation resources best be used to help strengthen and sustain healthy, resilient rural economies in the future? These and related questions are addressed in ***What Do Healthy Rural Economies Look Like in the U.S., and How Might Conservation Organizations Help Support Them?*** Click here to download a copy of this report.



When faced with complex land use decisions, communities often become embroiled in battles that tear at the civic fabric, pit neighbor against neighbor, demonize the applicant, and wear down local officials. Volunteer board members, neighbors, and applicants are often disheartened by what seems to be an insufficient process for solving these difficult, heated land use disputes. ***Land in Conflict: Managing and Resolving Land Use Disputes***, recently published by the Cambridge, MA-based Lincoln Institute of Land Policy, presents techniques that build on many of the principles of conflict resolution and negotiation in the landmark book *Getting to Yes*, and that are tailored to assist planners and planning board members at the local level manage the increasingly contentious development process. The authors, all associated with the Cambridge, MA-based Consensus Building Institute, have found that the mutual gains approach is a better way to manage the most challenging situations. Click here to order the book, here for a free download of the first chapter, and here to view a podcast on this theme.

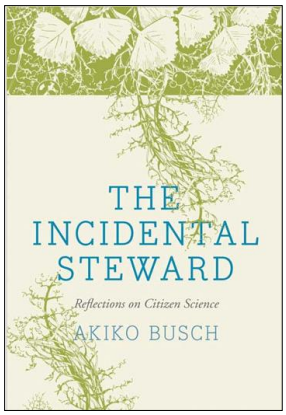


In the new book ***Common Ground on Hostile Turf: Stories from an Environmental Mediator,*** author Lucy Moore offers insight and inspiration to anyone caught in a seemingly hopeless dispute. Moore has worked with diverse groups and individuals: ranchers, environmental activists, government agencies, corporations, tribal groups, and many more. After decades spent at the negotiating table, she has learned that a case does not turn on facts, legal merit, or moral superiority. It turns on people. Through ten memorable stories, she shows how issues of culture, personality, history, and power affect negotiations. And she illustrates that equitable solutions depend on a healthy group dynamic. Both the mediator and opposing parties must be honest, vulnerable, open, and respectful. Easier said than done, but Moore proves that subtle shifts can break the logjam and reconcile even the most fiercely warring factions. Click here to order the book or for more info.

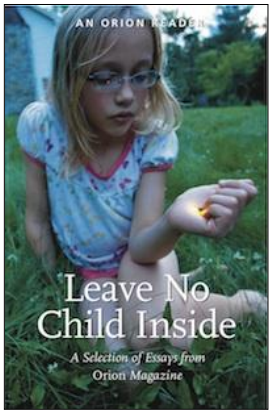


Mary Pipher's new book, ***The Green Boat: Reviving Ourselves in Our Capsized Culture*** , explores how to conquer fears about global climate change and transform those fears into a positive force. Pipher emphasizes the importance of taking small, positive steps to preserve what's important, drawing from her own experiences as part of a group concerned about the proposed Keystone XL oil pipeline across the Midwest, which will sit atop the Ogallala Aquifer, the source of 40% of the United States' fresh water. The challenges she confronts reveal surprising answers to the critical questions we face: How do

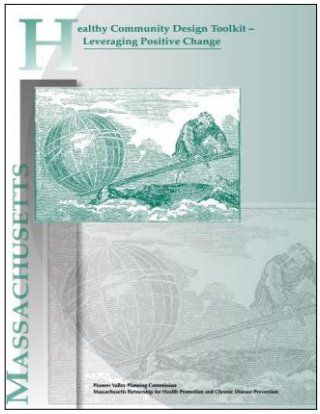
we mobilize ourselves and our communities to work together to solve global problems? How do we stay happy amid very difficult situations? And what is the true meaning of hope? Both profound and practical, *The Green Boat* explains how we can attend to the world around us with calmness, balance, and great love. Click here to order the book and here for a video by the author on this topic.



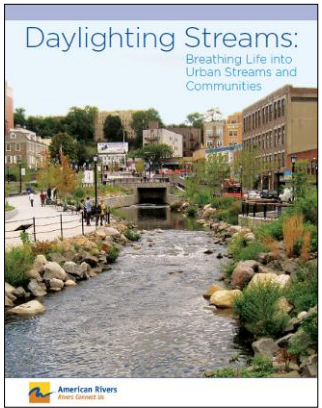
A search for a radio-tagged Indiana bat roosting in the woods behind her house in New York's Hudson Valley led Akiko Busch to assorted other encounters with the natural world—local ecological monitoring projects, community-organized cleanup efforts, and data-driven citizen science research. Whether it is pulling up water chestnuts in the Hudson River, measuring beds of submerged aquatic vegetation, or searching out vernal pools, all are efforts that illuminate the role of ordinary citizens as stewards of place. In the newly-published book ***The Incidental Steward: Reflections on Citizen Science***, Busch highlights factors that distinguish twenty-first-century citizen scientists from traditional amateur naturalists: a greater sense of urgency, helpful new technologies, and the expanded possibilities of crowdsourcing. Musing on the expanding potential of citizen science, the author celebrates today's renewed volunteerism and the opportunities it offers for regaining a deep sense of connection to place.



Nearly every environmental change-maker in history was shaped by a strong connection to the particular place or landscape he or she called home. But many children today are glued to screens or stuck prepping for another standardized exam, while nature education and unstructured time outdoors have fallen by the wayside. If children are not given opportunities to connect with the natural world, who will be the stewards of the future? The authors featured in ***Leave No Child Inside: A Selection of Essays from Orion Magazine*** (including John Elder, Belle Boggs, Richard Louv, Elise Rymer, and more) are part of an education movement that proposes a radical reconnection of children and nature through education. By doing so, they argue, we build a society of better citizens—citizens empowered to fight for the places and communities they have come to love. Click here to order this book as well as to learn about and order other similarly-themed publications. [Click here to download the Summer 2013 edition of the *River Management Society Journal*, whose theme is connecting kids to rivers.]

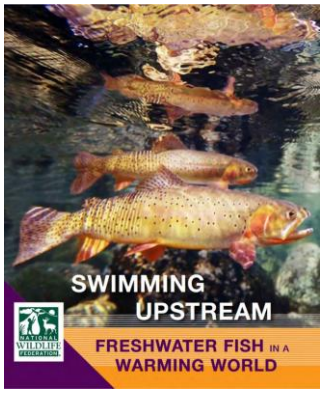


It is well understood that a community benefits from having clean air and water and an active population. But what about the connection between a community's built environment and health output? There is a growing body of research that links the two. There is much evidence that walkable, bikeable communities have a lower incidence of obesity and obesity-related ailments than their auto-oriented counterparts. ***Healthy Community Design Kit: Leveraging Positive Change***, recently produced by the Pioneer Valley Planning Commission on behalf of the Built Environment Community of Practice of the Massachusetts Partnership for Health Promotion and Chronic Disease Prevention, is a great resource for public health advocates that are interested in improving the built environment. Click here to download *Healthy Community Design* and here for more info.

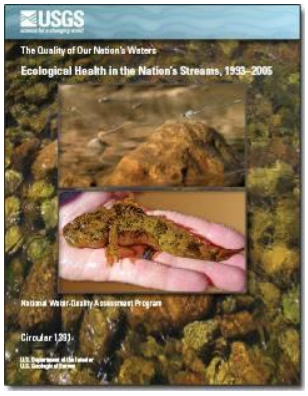


Preserving and protecting small streams is the best approach to ensure environmental and community benefits such as clean water and flood reduction. In highly urbanized areas, however, streams are often buried, hidden, and forgotten. Stream "daylighting" can bring these buried waterways back to life by physically uncovering and restoring them, thereby reducing polluted runoff, address flash flooding concerns, and improve the livability of the built environment. ***Daylighting Streams: Breathing Life Into Urban Streams and Communities***, a new report by American Rivers, describes the

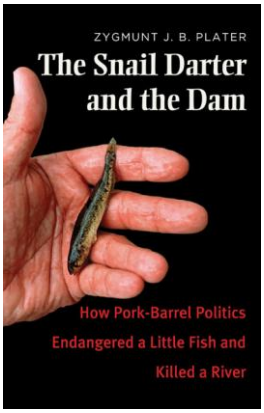
importance of small streams, explains why many streams are buried, and identifies and analyzes the benefits of stream daylighting, including water quality improvements, flood mitigation, ecological restoration, and community and economic revitalization. Case studies illustrate the benefits provided to specific communities. Click here to download the report, here and here for additional info, and here to read a related story from National Geographic.



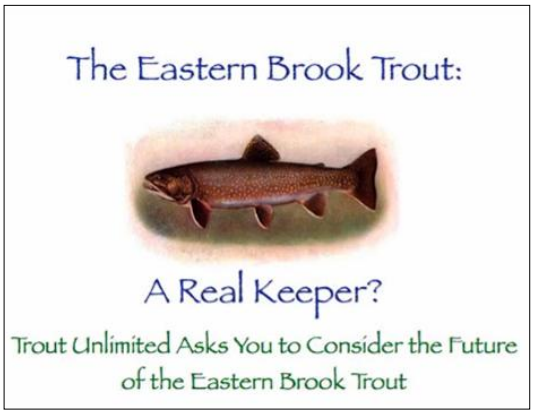
America's coldwater fish habitat could decline by 50 percent within the lifetime of a child born today thanks to climate change, according to ***Swimming Upstream: Freshwater Fish in a Warming World***, recently released by the National Wildlife Federation (NWF). The report details how climate change is warming lakes, rivers and streams and making existing stresses worse, creating an uncertain future for America's freshwater fishing traditions and the jobs that depend on them. 'More extreme heat and drought are already causing big problems for fish that rely on cold, clean water - and the warming we've seen so far is just the tip of the iceberg," said NWF Senior Scientist Doug Inkley, one of the lead authors of *Swimming Upstream*. "We can protect America's outdoor heritage, but only if we act now to cut industrial carbon pollution, invest in clean energy, and make communities and habitats more resilient to the impacts of climate change." Click here to download the report, here for the Executive Summary and here to read a press release on the report.



A recently-released USGS report, ***Ecological Health in the Nation's Streams, 1993—2005***, describes how the health of the nation's streams is being degraded by streamflow modifications and elevated levels of nutrients and pesticides. To assess the ecological health of streams, USGS scientists examined the relationship of the condition of three biological communities (algae, macroinvertebrates, and fish) to human-made changes in streamflow characteristics and water quality. The ability of a stream to support these biological communities is a direct measure of stream health. Researchers found that stream health was reduced at the vast majority of streams assessed in agricultural and urban areas. In these areas, at least one of the three aquatic communities was altered at 83 percent of the streams assessed. In contrast, nearly one in five streams in agricultural and urban areas was in relatively good health, signaling that **it is possible to maintain stream health in watersheds with substantial land and water-use development**. The study also found that water quality is not independent of water quantity because **flows are a fundamental part of stream health**. Click here for the report's abstract, here to download a (121 MB) .pdf version of the report, and here to read a press release on the report.

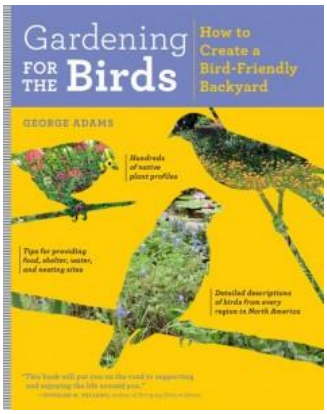


In ***The Snail Darter and the Dam: How Pork-Barrel Politics Endangered a Little Fish and Killed a River***, author and Boston College Law School Professor Zygmunt Plater tells the hidden story behind one of the nation's most significant environmental law battles. Plater recounts how a landmark case he and his students won thirty years ago, known officially at *Tennessee Valley Authority v. Hill*, has been consistently mischaracterized in politics and the media. This book offers a detailed account of the six-year crusade against a pork-barrel project that made no economic sense and was flawed from the start. In reality, TVA's project was designed for recreation and real estate development. And at the heart of the little group fighting the project in the courts and Congress were family farmers trying to save their homes and farms, most of which were to be resold in a corporate land development scheme. Click here to order the book or for more info, and here to hear a WBUR interview with Plater about the book that aired this past July. You may also want to attend a book reading by the author at Porter Square Books in Cambridge on **Tuesday, November 5, 2013** from 5:00 PM - 7:00 PM.



The fifteen minute video, ***The Eastern Brook Trout: A Real Keeper?***, produced by Trout Unlimited and posted online earlier this year at the Eastern Brook Trout Joint Venture's website, provides eloquent testimony of people's awareness of and fondness for the natural beauty and values of brook trout, why this native fish species is an important variable within aquatic habitats and is sometimes analogized to "the canary in the coal mine". The video explains why brook trout are an important indicator of high-quality, "coldwater" stream habitat and vice versa (why protecting coldwater streams is critical to protecting brook trout), as well as outlines major threats to brook trout and their habitat and what is being done to address them.

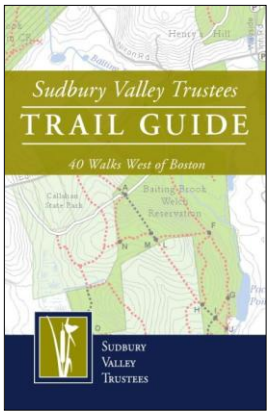
As communities shoulder greater concern over water resources in urban areas, preserving natural buffer zones is a top priority. Riparian tree planting programs can help address pollution, erosion, flooding, water temperature, and litter issues along river banks. While riparian tree planting can pose challenges, and methods and conditions vary for each city, the outcome is clear: trees are critical for healthy watersheds. In the webcast ***Riparian Tree Planting for Healthy Watersheds***, originally presented last June and archived on the Alliance for Community Trees (ACTrees)'s website, you can learn about: planting small trees and native species; minimizing erosion along urban banks; optimizing riparian tree survival rates; pest control along buffer zones; and strategic planting to reduce stormwater runoff. [Click here to see/listen to another recent ACTrees webcast, ***Educating Tomorrow's Environmental Stewards***, on the topic of **children who are regularly exposed to nature have better chances at living healthy and successful lives**, and how nonprofits and community organizations can play an important role in fostering children's natural curiosity about trees and the environment.]



You may already have a bird feeder in your yard, but you can attract a far wider range of species, and they will stay longer, if you create a bird-friendly landscape. George Adams' new book, ***Gardening for the Birds: How to Create a Bird-friendly Backyard***, will show you how. With the right native plants, arranged to mimic natural ecosystems, you can provide birds food, water, shelter, and nesting places. *Gardening for the Birds* provides info on hundreds of native plants, extensive seasonal bloom and fruiting charts, and the techniques for creating a balanced ecosystem, to enable you to turn any space—from a small, urban terrace to a large suburban yard—into a home for a fascinating variety of birds. Adams' close-up profiles of birds from across all regions of North America teach you their nesting, breeding, and feeding habits. Birding and gardening are natural companions: let this rich compendium help you make your garden a sanctuary for the local bird population as well as yourself. Click here to order the book and here to read a review of the book; and click here for a related article from *Audubon* Magazine, as well as a nine-step guide to transforming your yard.

Twenty-five years ago, John Hanson Mitchell cut down a 1.5-acre stand of seventy-five-year-old white pines and planted a garden in their place. Mitchell's new book, ***An Eden of Sorts: The Natural History of My Feral Garden***, is a history of the plants and animals that lived on the tract over the next decades. In a survey he made before taking down the pines, Mitchell counted no more than five or six flowering plants and shrubs. Over the years he created a series of fanciful garden "rooms" in the Italian style. Now, in addition to a florid

and intriguing garden of earthly delights, he has recorded more than one thousand species of plants and animals on the property. *An Eden of Sorts* is a paradoxical yet hopeful narrative of what can happen to a plot of land when it is properly managed. Click here to order the book and here for info about a book reading at the Arnold Arboretum on **Thursday, October 3**.



In honor of its 60th anniversary, Sudbury Valley Trustees (SVT) has just published a ***Trail Guide: 40 Walks West Of Boston***, detailing trails on SVT reservations and conservation restrictions, as well as nearby open space. Including detailed maps for hikes that reach into 26 towns in SVT's service area, the 100-page, full-color, spiral bound, laminated soft cover *Trail Guide* offers directions to access points, pieces of history about the land, and notes about the natural features and wildlife you may encounter during your visits. To make getting there even easier, SVT has paired good, old turn-by-turn directions with "QR" codes that can be scanned by a smart phone for GPS guidance straight to the trailheads. Click here to order the Trail Guide or for more info.

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The **Mass. Watershed Coalition** **(MWC)'s** **"mwc-list" listserv** is a great source of information on river- and watershed-related funding and job opportunities, upcoming events, recent articles and more. Many of the posted items are time-sensitive and can't wait until the next edition of ***Ebb&Flow***. You can access the mwc-list listserv at http://lists.topica.com/lists/mwc-list@igc.topica.com, where you can subscribe to receive the posted messages to your e-mail address, or simply read them on-line. Highly recommended!

Coordinated by the Mass. Executive Office of Energy and Environmental Affairs (EEA), ***The Great Outdoors Blog*** is dedicated to Massachusetts outdoor activities, events, wildlife, state parks and local agriculture that features a **calendar of Massachusetts outdoor events**. Learn about native marsh species, guides for the state's best paddling adventures and learn about wetlands restoration projects that protect recreational and commercial fisheries.

Last but not least :

The **Massachusetts Environmental Trust** (MET) provides funding to many river, wetland and other water resources protection and restoration projects throughout the Commonwealth. A major source of MET's funding comes from the sale of **environmental license plates**. Besides the "Right Whale and Roseate Tern" plate (click here, see p. 13), sales of the "Fish and Wildlife" plate (click here, see p.12), depicting a Brook Trout, and the Blackstone Valley plates (click here, see p.10) help fund MET's grant-making programs. (By the way, these three are the only Mass. specialty license plates that exclusively fund environmental programs). Getting an environmental plate is easy and can be done on-line by clicking here, or in person at your local Registry of Motor Vehicles office.

Does your car have an environmental license plate?

Division of Ecological Restoration Staff:
Tim Purinton, *Director* *(on leave to attend graduate school)*
Hunt Durey, *Acting Director*
Carrie Banks*, Stream Team and Westfield River Wild and Scenic Committee Coordinator*
Jeremy Bell, *Wetland Restoration Program Manager*
Russell Cohen, *Rivers Advocate*
Michelle Craddock, *Flow Restoration Specialist*
Cindy Delpapa, *Stream Ecologist*
Eileen Goldberg, *Assistant Director*
Alex Hackman, *Project Manager*
Franz Ingelfinger, *Restoration Ecologist*
Georgeann Keer, *Wetland Scientist and Project Manager*
Beth Lambert, *River Restoration Program Manager*
Laila Parker, *Flow Restoration Program Manager*
Megan Sampson, *Program Administrator*
Nick Wildman, *Priority Projects Coordinator*
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Commonwealth of Massachusetts
Deval L. Patrick, Governor
Richard K. Sullivan, Jr., Secretary, Executive Office of Energy and Environmental Affairs
Mary B. Griffin, Commissioner, Department of Fish and Game

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